Cl **00** *SC* *P* *L* # **1428**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Clause numbering seems a bit backwards. Clause 58 is 1G PON, 59 is 1G LX10 and BX10, and 60 is 100M LX10 and BX10. All the test information is in Clause 60.

SuggestedRemedy
Swap Clause 58 and Clause 60.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will look into the possibility (and work) of renumbering C58 and C60

Cl **00** *SC* *P* *L* # **1238**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Editor's notes lack consistent format.

SuggestedRemedy
Use consistent format!

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **00** *SC* *P* *L* # **1229**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Trademark symbols in document header.

SuggestedRemedy
Remove TM in the header and ensure that first reference to the documents contains the TM symbol.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will check with the IEEE Editor and adjust appropriately

Cl **00** *SC* *P* *L* # **406**
Radcliffe, Jerry Hatteras Networks

Comment Type **T** *Comment Status* **D**
There has been a request for a discussion on Frame Based Testing to support the test structures of Clauses 58, 59 and 60. As this applies to several clauses it may most readily addressed by an informativve appendix.

SuggestedRemedy
Include an informative appendix based on radcliffe_optics_1_0503.pdf. At the editors discretion the material may be included in the appropriate clauses.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The commentor's contribution is appreciated. An informative annex may be added as 60A.

The division of the information between the normative clauses and informative annexes is left to the discretion of the STF.

Cl **00** *SC* *P* *L* # **1268**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Inconsistent use MAC-PHY and PHY-MAC for rate matching.

SuggestedRemedy
Change to be MAC-PCS rate matching throughout the document. This will provide consistency and will permit easier explanation of where the rate matching occurs.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will look for the relevant instances of MAC-PHY and PHY-MAC in the context of rate matching and change appropriately

Cl **00** *SC* *P* *L* **55** # **1180**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Copyright notice font size should be smaller.

SuggestedRemedy
Decrease font size.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **00** *SC* **00** *P* *L* **14** # **1182**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Revisions is preferred term.

SuggestedRemedy
Alter Changes to be Revisions for 30, 30A, 30B and 31A.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Changes is also appropriate terminology. A consiatant approach will be used.

Cl **00** *SC* **00** *P* *L* **5** # **1181**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Revisions only includes standard and not approved supplements and amendments.

SuggestedRemedy
Change to include statement about approved supplements and amendments.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will check on wording and change as appropriate for the next draft

Cl **00** *SC* **28.4.1** *P* **162** *L* **1** # **763**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Consider adding two more columns to spectral tables for FEC.

SuggestedRemedy
Normative and informative with FEC, values about sqrt(2)* present columns. Modify PICS: add a primary capability option, non-FEC operation. (If a transmitter can do non-FEC it can do FEC?)

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The EFM project is self sufficient there is no need for us to open up more clauses.

Cl **01** *SC* *P* **1** *L* **1** # **1183**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Missing Clause 1 from draft.

SuggestedRemedy
Add Clause 1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Clause 1 will be added before we get into WG Ballot

Cl **01** *SC* **Contents** *P* **5** *L* **31** # **924**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Description of changes to 46 is missing.

SuggestedRemedy
Add "(Edits to allow OAM frame transmission on one way links)". This way, 46 will be identical to 24 and 36.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **01** *SC* **Contents** *P* **6** *L* **6** # **925**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Title of project is inconsistent. Clause 56's title is "Introduction to Ethernet for Subscriber Access Networks". However, Clause 66 and Annex 66A omit the 'for'.

SuggestedRemedy
Change "Ethernet Subscriber" to "Ethernet for Subscriber" on lines 6 and 16.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **04** *SC* *P* **9** *L* **1** # **1071**
Law, David 3Com

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

Suggest we update the editing instruction to match the text provided in the latest Standards style manual Clause 21 [http://standards.ieee.org/guides/style/section7.html#7343].

This is suggested for two reasons:
1) To keep us in step with the requirements or the Style Manual
2) These style manual instructions provide a fourth option which we currently don't include - replace - which may be of use to us.

This comment also applies to Clauses 22, 24, 30, 36 and 46.

SuggestedRemedy

Change the current editing instruction to read:

The editing instructions are shown in bold italic. Four editing instructions are used: change, delete, insert, and replace. Change is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using strikethrough (to remove old material) and underscore (to add new material). Delete removes existing material. Insert adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. Replace is used to make large changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with new material. Editorial notes will not be carried over into future editions because the changes will be incorporated into the base standard.

The text 'bold italic' and the words 'Change', 'Delete', 'Insert' & 'Replace' should be in bold italic text. The word strikethrough should be in strikethrough. The word underscore should be in underscore.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **04** *SC* *P* **9** *L* **1** # **1184**
Booth, Brad Intel

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

Use title found in Table of Contents.

SuggestedRemedy

Alter Changes to be Revisions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **04** *SC* *P* **9** *L* **4** # **1185**
Booth, Brad Intel

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

Add text about approved supplements and amendments.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor is willing to comply if more details can be provided.

Cl **04** *SC* **4.2.3.2.2** *P* **10** *L* **10** # **833**
Tae-Whan Yoo ETRI

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

The bit counting and IFG extention should be executed in the MAC control sublayer in the case of P2MP topology.

SuggestedRemedy

We recommend that "the MAC sublayer" in line 10 and line 12 be replaced with "the MAC sublayer (the MAC control sublayer for the case of multi-point MAC)".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The MAC Control sublayer knows nothing about IFG and cannot perform this function

Cl **04** *SC* **4.2.7.2** *P* **10** *L* **17** # **1186**
Booth, Brad Intel

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

Modify and Add undefined.

SuggestedRemedy

Alter all editing instructions of Modify to be Change. Alter all editing instructions of Add to be Insert.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **04** *SC* **4.2.8** *P* **11** *L* **3** # **926**

Daines, Kevin World Wide Packets

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

The term "Forward Error Encoding" is unique to this sub-clause. "Forward Error Correction" was used previously in 4.2.3.2.2 and the table in 4.4.2.

SuggestedRemedy

Change "Encoding" to read "Correction".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **04** *SC* **4.4.2** *P* **12** *L* **54** # **1108**

Law, David 3Com

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

I have a few issues with this new table.

1. The instructions do not make it clear where to add the table within the existing subclause. Note that the base of the clause is in 802.3-2002 and 802.3ae-2002 modifies it.

2. I believe that we call the date rate control provided for the WAN PHY 'Rate Control' rather that 'Rate Adaptation'.

3. The configuration for ifStretchRatio is already provided in the table in this subclause added by 802.3ae-2002.

4. This new table doesn't make it clear that, for example, the WAN configuration is only supported at a speed of 10Gb/s.

SuggestedRemedy

1. Add clear instructions where to add this table.

2. Change the text 'rate adaptation' to read 'rate control'.

3. Decide where to place the specification of ifsStretchRatio and how to make it clear which Rate Control methods are permissible at what speeds. I would suggest here that an ifsStretchRatio be removed from the table added by 802.3ae-2002 and that an additional be added to the second row of the table as follows:

Typical
be changed to read (centre aligned):
Normal
10 Mb/s
1BASE-5
100 Mb/s
1 Gb/s 10 Gb/s

WAN
be changed to read (centre aligned):
WAN
10Gb/s

FEC
be changed to read (centre aligned):
FEC
1Gb/s

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1. Change the editing instructions to read:

Insert the following text and table at the end of 4.4.2

Cl **22** *SC* *P* **15** *L* **1** # **1187**

Booth, Brad Intel

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

Use title found in Table of Contents.

SuggestedRemedy

Alter Changes to be Revisions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **22** *SC* *P* **15** *L* **4** # **1188**

Booth, Brad Intel

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

Missing information about supplements and amendments.

SuggestedRemedy

Add including approved supplements and amendments.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor is willing to comply if more details can be provided.
See #1185

Cl **22** *SC* **22.2.4** *P* **16** *L* **10** # **1070**

Law, David 3Com

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

The current editing instructions do not follow the editing instructions provided at the start of this Clause which states there are three possible editing instructions, Change (with underscore and strikeout), Delete and Insert.

The same is true for most of the changes contained in this Clause.

SuggestedRemedy

Include changes in this Clause using the either the three (or four if my other comment about using the Style Manual editing instructions is accepted) possible editing instructions.

Taking Table 22-6 as an example either place a Change instruction at the start of it and include the changes in strikeout and underscore.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The editor is not completely sure exactly what changes to make to this table. Is the commenter suggesting that the entire table be replicated, along with all changes, and that it is not sufficient to only include that portion of the table that is changing?

Cl **22** *SC* **22.2.4** *P* **16** *L* **19** # **1069**

Law, David 3Com

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

Management for PDs was recently removed. Due to this register 12 is now called 'PSE Status register'

SuggestedRemedy

Changed the text 'PSE/PD Status register' to read 'PSE Status register'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **22** *SC* **22.2.4** *P* **16** *L* **26** # **1190**

Booth, Brad Intel

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

Remove editorial note as it is no longer applicable.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **22** *SC* **22.2.4** *P* **16** *L* **5** # **1189**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Add and Modify are not editing instructions.

SuggestedRemedy
Alter Add to be Insert, and Modify to be Change.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **22** *SC* **22.2.4.1** *P* **17** *L* **3** # **1191**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Footnote is wording contains 'should'.

SuggestedRemedy
Change to read:
Bits 0.12 and 0.1 cannot be set to one simultaneously; see 22.2.3.1.12.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The editor wasn't intending to make it that explicit, just to merely state that it shouldn't happen or unknown consequences may occur. Does this change suggest that the consequences are known? If so, what are they?

Cl **22** *SC* **22.2.4.1** *P* **17** *L* **5** # **1192**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Fix editing instruction.

SuggestedRemedy
Change to read:
Change first sentence in 22.2.4.1.11 to read

Bits 0.5:2 and 0.0 are reserved for...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **22** *SC* **22.2.4.1.12** *P* **17** *L* **18** # **1193**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
First paragraph is confusing.

SuggestedRemedy
Change to read:
The ability to encode and transmit data from the media independent interface regardless of the value of link_status is controlled by bit 0.1. If bit 01. is set to a logic one, encoding and transmitting data from the media independent interface shall be enabled regardless of the value of link_status. If bit 0.1 is set to a logic zero, encoding and transmitting data from the media independent interface shall be dependent on the value of link_status. If a PHY reports via bit 1.7 that...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **22** *SC* **22.2.4.1.12** *P* **17** *L* **18** # **859**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
The Unidirectional OAM Enable paragraph should clarify that the management bit 0.1 enables only the unidirectional transmit of OAM frames, not MAC data frames.

Per clause5 7.3.3, page 129, line 41:
"Since only OAMPDUs may be sent on a unidirectional link, ..."

SuggestedRemedy
Change text from:
The ability to encode and transmit data from the media independent interface regardless

to:
The ability to encode and transmit data, comprised of OAM frames (see 57.3.3), from the media independent interface regardless ...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This section has changed per comment #1193. The editor doesn't see the need for this addition to the modified text. Also, this bit allows the PHY to transmit all frames, not just OAMPDUs, even though those are the only ones that should be transmitted.

Cl **22** *SC* **22.2.4.1.12** *P* **17** *L* **25** # **1194**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Paragraph needs a shall and clean-up.

SuggestedRemedy
Change to read:
The default value of bit 0.1 is zero. Bits 01. and 0.12 shall never simultaneously have the value of one. Doing so may provide unpredictable results.

Delete last sentence of paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

How can this be enforced? Does hardware keep these bits from setting together or is this a requirement on the software driver? Without a hardware check, these bits can both be set to 1 but "Doing so may provide unpredictable results."

Cl **22** *SC* **22.2.4.3.11** *P* **18** *L* **30** # **1195**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Not IEEE format.

SuggestedRemedy
Change to IEEE list style.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The editor would be glad to comply, given proper guidance from the Editor-in-Chief.

Cl **22** *SC* **22.2.4.3.12** *P* **19** *L* **10** # **927**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
The first occurrence of "entries" is misspelled on line 10.

SuggestedRemedy
Fix spelling.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **22** *SC* **22.7.3.4** *P* **19** *L* **16** # **1196**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Add new PICS.

SuggestedRemedy
Change MF39 and MF40 to MF40 and MF41, respectively. Add the following PICS:
MF39;Unidirectional OAM disable;22.2.4.1.12;M; ;By setting 0.1=0
MF42;Auto-negotiation & Unidirectional OAM Enable;22.2.4.1.12;M; ;0.12 and 0.1 not set simultaneously to one

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #1194.

Cl **24** *SC* *P* **21** *L* **1** # **1197**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Title not the same as TOC.

SuggestedRemedy
Alter Changes to be Revisions.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **24** *SC* *P* **21** *L* **4** # **1198**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Include statement about approved supplements and amendments.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Editor is willing to comply if more details can be provided.
See #1185 & #1188

Cl **24** *SC* **24.2.4.2** *P* **22** *L* **32** # **1199**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Incorrect use of editing terms.

SuggestedRemedy
Throughout clause, alter Modify to be Change and Add to be Insert.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **24** *SC* **24.2.4.2** *P* **22** *L* **45** # **1200**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Keep editing instruction with figure.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **24** *SC* **24.3.4.5** *P* **23** *L* **54** # **1201**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Keep editing instruction with figure.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **24** *SC* **24.3.4.5** *P* **24** *L* **21** # **1202**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Font used in Figure 24-16 are smaller than other fonts.

SuggestedRemedy
Match font sizes.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* *P* *L* # **992**
Maislos, Ariel Passave

Comment Type **T** *Comment Status* **D**
add variables to reflect Clause 65 control elements for type
add method to enable/disable sublayer

SuggestedRemedy
Add aOMPEmulationType:
Syntax - boolean
Behaviour - This variable shall be 1 for an OLT and shall be 0 for an ONU CROSSREF 65.1.2.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

A Boolean is 'True' and 'False' rather than 1 and 0 however suggest an enumeration including an enumeration for the initializing state should be included. New attribute definition would read:

30.X.X.X.X aOMPEmulationType:
ATTRIBUTE
APPROPRIATE SYNTAX:
A ENUMERATION that meets the requirements of the description below:
unknown Initializing, true state or type not yet known
OLT Sublayer operating in OLT mode
ONU Sublayer operating in ONU mode
BEHAVIOUR DEFINED AS:
A read only value that indicates that mode of operation of the Reconciliation Sublayer for Point to Point Emulation (see 65.1.2.1).;

Cl **30** *SC* *P* **25** *L* **1** # **1203**

Booth, Brad Intel

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

Revisions is preferred over Changes.

SuggestedRemedy

Alter Changes to be Revisions.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

There are four types of document that may be developed by an IEEE Standards Project:

New: A document that does not replace or substantially modify another standard.
Revision: A document that updates or replaces an existing IEEE standard in its entirety.
Amendment: A document that has to contain new material to an existing IEEE standard and that may contain substantive corrections to that standard as well.
Corrigenda: A document that only contains substantive corrections to an existing IEEE standard.

As alluded to above, and stated in the Operation manual [http://standards.ieee.org/guides/opman/sect9.html#rev], a Revision project has, among other things, the scope of the entire standard. IEEE P802.3ah is not a Revision therefore we shouldn't have text in it that states 'Revisions to ...'. 'Changes to ...', is the text that appears on Page 1 of IEEE Std 802-3ae-2002 which reads 'Changes to IEEE Std 802.3-2002'.

Cl **30** *SC* **30** *P* **26** *L* **1** # **431**

Squire, Matt Hatteras Networks

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

Rename clause to "Management" as the current title doesn't adequately cover all new PHYs.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11** *P* **45** *L* **18** # **99200**

Matt, Squire Hatteras Networks

Comment Type **T** *Comment Status* **A** *D1.2 #491*

Suggest new element to cover remote configuration.

SuggestedRemedy

Add objects to cover: OAM_configuration, OAM_PDU_configuration, extension, and remote MAC address.

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Delete sub-clause 30.11.2.
Delete oRemote from Fig 30-3, Fig 30-4.

Add attributes for suggested remedy in 30.11.1.

Editor will elaborate.

- - -

This comment was incorrectly added to the D1.3 comment database.

- - -

This comment was incorrectly added to the D1.414 comment database.
Why will this not go away ???

Cl **30** *SC* **30.11.1.1** *P* *L* # **432**

Squire, Matt — Hatteras Networks

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

We should introduce counters for each specific event type so that we know how many times each event occurred locally and remotely.

SuggestedRemedy

Introduce following attributes:

aOAMLocalErrSymPeriodEventCount
aOAMRemoteErrSymPeriodEventCount
aOAMLocalErrFrameSecsEventCount
aOAMRemoteErrFrameSecsEventCount
aOAMLocalErrFramePeriodEventCount
aOAMRemoteErrFramePeriodEventCount
aOAMLocalErrFrameSecsSummaryEventcCount

aOAMRemoteErrFrameSecsSummaryEventcCount
aOAMLocalVendorEventCount
aOAMRemoteVendorEventCount

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Also should consider deleting attributes such as aOAMLocalErrSymPeriodEvent and aOAMLocalErrSymPeriodEvent since they don't provide reliable information as two Errored Symbol Period Event TLVs in Event Notification OAMPDUs will cause the first even to be lost. The maximum rate at which a counter is allowed to overflow is 58 minutes (see Annex 30A - "Counters for these protocol encodings are speci?ed as either 32 or 64 bits wide. Thirty-two bit counters are used for the protocol encoding of counter attributes, providing the minimum rollover time is 58 min or more. Sixty-four bit counters are used for the protocol encoding of counter attributes that could roll over in less than 58 min with a 32-bit counter.") due to the rate at which attributes are expected to be read. A equal read rate applied to aOAMLocalErrSymPeriodEvent and aOAMRemoteErrSymPeriodEvent shows how unreliable these attributes are.

Cl **30** *SC* **30.11.1.1.11** *P* **52** *L* **8** # **932**

Daines, Kevin — World Wide Packets

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

Remove "_" to make consistent with 57.

SuggestedRemedy

"Device Identifier"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.12** *P* **52** *L* **25** # **933**

Daines, Kevin — World Wide Packets

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

Remove "_" to make consistent with 57.

SuggestedRemedy

"Version Identifier"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.15** *P* **53** *L* **7** # **934**

Daines, Kevin — World Wide Packets

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

The attribute "aOAMUnsupportedCodesRx" currently describes "a count of OAMPDUs received that contain an OAM code from Table 57-4 that are not supported by the device."

Does this mean that if a device doesn't support Loopback Control OAMPDUs and it receives a Loopback Control OAMPDU, that the attribute is incremented? If so, the BEHAVIOUR for the other Rx attributes will need to be modified to include "support" somewhere.

SuggestedRemedy

Clarify intent BEHAVIOUR and if necessary augment the BEHAVIOUR of the other Rx attributes:
30.11.1.1.17
30.11.1.1.19
30.11.1.1.22
30.11.1.1.24
30.11.1.1.26
30.11.1.1.28

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

For attributes defined in subclauses 30.11.1.1.17, 30.11.1.1.19, 30.11.1.1.22, 30.11.1.1.24, 30.11.1.1.26 & 30.11.1.1.28 modify BEHAVIOUR to include the requirement that the OAM sublayer support the particular OAM code.

Cl **30** *SC* **30.11.1.1.2** *P* **49** *L* **35** # **930**

Daines, Kevin — World Wide Packets

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

Capitalization.

SuggestedRemedy

Change "Sublayer" to "sublayer".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.29** *P* **56** *L* **47** # **1097**

Law, David — 3Com

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

Combine the attributes aOAMLocalErrSymPeriodWindow and aOAMLocalErrSymPeriodThreshold as they both relate to the configuration of the Errored Symbol Period Event.

SuggestedRemedy

Replace the attributes aOAMLocalErrSymPeriodWindow and aOAMLocalErrSymPeriodThreshold with:

aOAMLocalErrSymPeriodConfig

ATTRIBUTE

APPROPRIATE SYNTAX:
A SEQUENCE of two instances of the type INTEGER

BEHAVIOUR DEFINED AS:
The first integer is a eight-octet value indicating the duration of the Errored Symbol Period Event (see CROSS REF 57.5.3.1) window, in terms of symbols.
The second integer is a four-octet value indicating the number of errored symbols in the period that must be exceeded in order for the Errored Symbol Period Event (see CROSS REF 57.5.3.1) to be generated.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.3** *P* **49** *L* **47** # **1101**

Law, David — 3Com

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

Typo.

SuggestedRemedy

Suggest the text 'either passive or active.' is changed to read 'either "passive" or "active".'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.30** *P* **57** *L* **10** # **935**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Wrong width.

SuggestedRemedy
Change "A four" to "An eight".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.31** *P* **57** *L* **23** # **936**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Grammar.

SuggestedRemedy
Change "in a Event" to "in an Event".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.32** *P* **57** *L* **24** # **1095**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Combine the attributes aOAMLocalErrFrameSecsWindow and aOAMLocalErrFrameSecsThreshold as they both relate to the configuration of the Errored Frame Seconds Event.

SuggestedRemedy
Replace the attributes aOAMLocalErrFrameSecsWindow and aOAMLocalErrFrameSecsThreshold with:

aOAMLocalErrFrameSecsConfig

ATTRIBUTE

APPROPRIATE SYNTAX:
A SEQUENCE of two instances of the type INTEGER

BEHAVIOUR DEFINED AS:
The first integer is a four-octet value indicating the duration of the Errored Frame Seconds Event (see CROSS REF 57.5.3.2) window, in terms of number of 100ms intervals.
The second integer is a four-octet field indicating the number of errored frames in the period that must be exceeded in order for the Errored Frame Seconds Event (see CROSS REF 57.5.3.2) to be generated.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.32** *P* **57** *L* **31** # **937**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Wrong width.

SuggestedRemedy
Change "A four" to "A two".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.34** *P* **57** *L* **54** # **938**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Grammar.

SuggestedRemedy
Change "in a Event" to "in an Event".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.34** *P* **58** *L* **2** # **1094**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated when a Mux:MA_DATA.request primitive is generated within the OAM sublayer with an OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4 and Event TLV Type field equal to the Errored Frame Seconds Event value defined in CROSS REF 57.5.3.2.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.35** *P* **58** *L* **12** # **1093**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
If my comment to combine the attributes aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFtherameSecsSummaryThreshold is not accepted there is a typo at the end of both of these with a ';' missing at the end of the behaviours.

SuggestedRemedy
See comments.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

No change required as the comment to combine aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFtherameSecsSummaryThreshold is accepted.

Cl **30** *SC* **30.11.1.1.35** *P* **58** *L* **3** # **1092**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Combine the attributes aOAMLocalErrFramePeriodWindow and aOAMLocalErrFramePeriodThreshold as they both relate to the configuration of the Errored Frame Period Event.

SuggestedRemedy
Replace the attributes aOAMLocalErrFramePeriodWindow and aOAMLocalErrFramePeriodThreshold with:

aOAMLocalErrFramePeriodConfig

ATTRIBUTE

APPROPRIATE SYNTAX:
A SEQUENCE of two instances of the type INTEGER

BEHAVIOUR DEFINED AS:
The first integer is a four-octet value indicating the duration of the Errored Frame Period Event (see CROSS REF 57.5.3.3) window, in terms of the number of minFrameSize frames that can be transmitted on the underlying physical layer.
The second integer is a four-octet value indicating the number of errored frames in the period that must be exceeded in order for the Errored Frame Period Event (see CROSS REF 57.5.3.3) to be generated.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.37** *P* **58** *L* **34** # **1089**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated when a Mux:MA_DATA.request primitive is generated within the OAM sublayer with an OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4 and Event TLV Type field equal to the Errored Frame Period Event value defined in CROSS REF 57.5.3.3.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.38** *P* **58** *L* **35** # **1091**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
If my comment to combine the attributes aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFtherameSecsSummaryThreshold is not accepted there is a typo at the end of both of these with a ';' missing at the end of the behaviours.

SuggestedRemedy
See comments.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

No change required as the comment to combine the attributes aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFtherameSecsSummaryThreshold is accepted.

Cl **30** *SC* **30.11.1.1.38** *P* **58** *L* **35** # **1090**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Combine the attributes aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFrameSecsSummaryThreshold as they both relate to the configuration of the Errored Frame Seconds Summary Event.

SuggestedRemedy
Replace the attributes aOAMLocalErrFrameSecsSummaryWindow and aOAMLocalErrFrameSecsSummaryThreshold with:

aOAMLocalErrFrameSecsSummaryConfig

ATTRIBUTE

APPROPRIATE SYNTAX:
A SEQUENCE of two instances of the type INTEGER

BEHAVIOUR DEFINED AS:
The first integer is a two-octet value indicating the duration of the Errored Frame Seconds Summary Event (see CROSS REF 57.5.3.4) window, in terms of number of 100ms intervals.
The second integer is a two-octet value indicating the number of errored frame seconds in the period that must be exceeded in order for the Errored Frame Seconds Summary Event (see CROSS REF 57.5.3.4) to be generated.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.40** *P* **59** *L* **11** # **1088**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated when a Mux:MA_DATA.request primitive is generated within the OAM sublayer with an OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4 and Event TLV Type field equal to the Errored Frame Seconds Summary Event value defined in CROSS REF 57.5.3.4.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.41** *P* **59** *L* **18** # **1086**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
Typo - period missing from the end of the first three of the four lines defining the sequence.

SuggestedRemedy
See comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See #939.

Cl **30** *SC* **30.11.1.1.41** *P* **59** *L* **23** # **939**
Daines, Kevin World Wide Packets

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

SuggestedRemedy
Remove "." from the end of lines 22, 34 and 35 on page 59.

Remove "." from the end of lines 6 and 7 on page 60.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.41** *P* **59** *L* **26** # **1087**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated on reception of a valid frame, with (1) destinationField equal to the reserved multicast address for Slow_Protocols specified in CROSS REF Table 43B-1, (2) lengthOrType field value equal to the reserved Type for Slow_Protocols as specified in CROSS REF Table 43B-2, (3) Slow_Protocols subtype value equal to the subtype reserved for OAM as specified in CROSS REF Table 43B-3, (4) OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4, (5) Event TLV Type field equal to the Errored Symbol Period Event value defined in CROSS REF 57.5.3.1.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.42** *P* **59** *L* **40** # **1085**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated on reception of a valid frame, with (1) destinationField equal to the reserved multicast address for Slow_Protocols specified in CROSS REF Table 43B-1, (2) lengthOrType field value equal to the reserved Type for Slow_Protocols as specified in CROSS REF Table 43B-2, (3) Slow_Protocols subtype value equal to the subtype reserved for OAM as specified in CROSS REF Table 43B-3, (4) OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4, (5) Event TLV Type field equal to the Errored Frame Seconds Event value defined in CROSS REF 57.5.3.2.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.43** *P* **59** *L* **54** # **1084**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated on reception of a valid frame, with (1) destinationField equal to the reserved multicast address for Slow_Protocols specified in CROSS REF Table 43B-1, (2) lengthOrType field value equal to the reserved Type for Slow_Protocols as specified in CROSS REF Table 43B-2, (3) Slow_Protocols subtype value equal to the subtype reserved for OAM as specified in CROSS REF Table 43B-3, (4) OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4, (5) Event TLV Type field equal to the Errored Frame Period Event value defined in CROSS REF 57.5.3.3.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.1.5** *P* **50** *L* **18** # **931**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Need to remove "_""s to make consistent with 57.

SuggestedRemedy
7 places within BEHAVIOUR in 30.11.1.1.5 and 3 places within 30.11.1.1.6.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.2.1** *P* **60** *L* **38** # **1208**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Large blank space.

SuggestedRemedy
Remove unnecessary page break.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.31** *P* **57** *L* **23** # **1096**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Please add specific condition for updating this sequence.

SuggestedRemedy
Add the text:

"This sequence is updated when a Mux:MA_DATA.request primitive is generated within the OAM sublayer with an OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4 and Event TLV Type field equal to the Errored Symbol Period Event value defined in CROSS REF 57.5.3.2.;"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.32** *P* **57** *L* **25** # **363**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event TLV was renamed to Errored Frame Event TLV, therefore this clause 30 attribute should be changed as well.

SuggestedRemedy
Rename the attribute aOAMLocalErrFrameWindow.

Change Errored Frame Seconds on line 31 to Errored Frame.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.33** *P* **57** *L* **34** # **364**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event TLV was renamed to Errored Frame Event TLV, therefore this clause 30 attribute should be changed as well.

SuggestedRemedy
Rename the attribute aOAMLocalErrFrameThreshold.

Change Errored Frame Seconds on line 42 to Errored Frame.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.34** *P* **57** *L* **44** # **365**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event TLV was renamed to Errored Frame Event TLV, therefore this clause 30 attribute should be changed as well.

SuggestedRemedy
Rename the attribute aOAMLocalErrFrameEvent.

Change Errored Frame Seconds on line 54 to Errored Frame.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.42** *P* **59** *L* **28** # **366**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event TLV was renamed to Errored Frame Event TLV, therefore this clause 30 attribute should be changed as well.

SuggestedRemedy
Rename the attribute aOAMRemoteErrFrameEvent.

Change Errored Frame Seconds on line 38 to Errored Frame.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.11.1.44** *P* **60** *L* **11** # **1082**
Law, David 3Com

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

Please add specific condition for updating this sequence.

SuggestedRemedy

Add the text:

"This sequence is updated on reception of a valid frame, with (1) destinationField equal to the reserved multicast address for Slow_Protocols specified in CROSS REF Table 43B-1, (2) lengthOrType field value equal to the reserved Type for Slow_Protocols as specified in CROSS REF Table 43B-2, (3) Slow_Protocols subtype value equal to the subtype reserved for OAM as specified in CROSS REF Table 43B-3, (4) OAMPDU Code field value equal to the Event Notification code as specified in CROSS REF Table 57-4, (5) Event TLV Type field equal to the Errored Frame Seconds Summary Event value defined in CROSS REF 57.5.3.4.;"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.12** *P* **61** *L* **3** # **1075**
Law, David 3Com

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

The OMPMuxing object class has been deleted from Figure 30-3 however it is still to be deleted from here.

SuggestedRemedy

Delete current 30.12 and 30.12.1 and 30.12.2.
Insert new 30.12 that reads 'OMP Emulation managed object class'.
Subclause 30.12.2.1 becomes 30.12.1
Subclauses 30.12.2.1.1 through 30.12.2.1.4 become 30.12.1.1 through 30.12.1.4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.2** *P* **61** *L* **30** # **813**
Kang, Hoyong ETRI (Electronics Tele

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

Line from 30 to 39. This aSPDErrors attribute is mandatory for the OLT, but this attribute is optional for a ONU because a ONU can receive all frame from OLT regardless of LLID values.

SuggestedRemedy

A count of frames received that do not contain a valid SPD field as defined in CROSS REF 57.3.2.1. This attribute is mandatory for the OLT and optional for a ONU.;

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.2** *P* **61** *L* **38** # **1081**
Law, David 3Com

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

Cross reference error.

SuggestedRemedy

Suggest '... as defined in CROSS REF 57.3.2.1.;' should read '... as defined in CROSS REF 65.1.2.4.1.;'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.3** *P* **61** *L* **41** # **814**
Kang, Hoyong ETRI (Electronics Tele

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

Line 41-50. This aCRC8Errors attribute is mandatory for the OLT, but this atttribute can be optional for a ONU because a ONU can receive all frame from OLT regardless of LLID values.
It is also meaningless to check this attribute for a ONU.

SuggestedRemedy

A count of frames received that contain a valid SPD field, as defined in CROSS REF 57.3.2.1, but do not pass the CRC-8 check as defined in CROSS REF 57.3.2.3.
This attribute is mandatory for the OLT and optional for a ONU.;

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.3** *P* **61** *L* **49** # **1079**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
Cross reference error.

SuggestedRemedy
Suggest that '... SPD field, as defined in CROSS REF 57.3.2.1, but ...' should read '... SPD field, as defined in CROSS REF 65.1.2.4.1, but ...'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.3** *P* **61** *L* **50** # **1080**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
Cross reference error.

SuggestedRemedy
Suggest '... as defined in CROSS REF 57.3.2.3.;' should read '... as defined in CROSS REF 65.1.2.4.3.;'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.12.2.1.4** *P* **62** *L* **52** # **815**
Kang, Hoyong ETRI (Electronics Tele

Comment Type **E** *Comment Status* **D**
Line 5-7. This aBadLLID attribute is mandatory for the OLT.
But it is meaningless to check this attribute for a ONU.

SuggestedRemedy
A count of frames received that contain a valid SPD field in the OLT, as defined in CROSS REF 57.3.2.1, but do not pass the CRC-8 check as defined in CROSS REF 57.3.2.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.2.2.1** *P* **28** *L* **48** # **1076**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Remove the oPD managed object - management of PDs has been removed from IEEE P802.3af DTE Power via MDI.

SuggestedRemedy
Remove oPD paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.2.5** *P* *L* # **1100**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
The updates to the Capabilities subclause and associated Tables have yet to be provided.

SuggestedRemedy
See proposed Capabilities subclause and associated Tables that I will supply.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.3.1.1.32** *P* **33** *L* **32** # **1078**

Law, David 3Com

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

The attributes aIfsStretchConstant, aIfsStretchCarry, aIfsStretchIncludeIFS and aIfsStretchMultiplier should be replaced with a single new attribute aRateControlConfig that has three enumerations 'Normal', 'WAN' and 'FEC'. These three enumerations will map to the only three permitted combinations of IFS setting defined in table 4.4.2. The ability to be able to set (write to) this attribute should be predicated on aRateControlAbility being true.

There is no need to provide variable values through attributes as only three combinations are permitted by subclause 4.4.2, 'Allowable

SuggestedRemedy

Replace the attributes aIfsStretchConstant, aIfsStretchCarry, aIfsStretchIncludeIFS and aIfsStretchMultiplier with a single new attribute aRateControlConfig that allows selection of one of the three modes. The existing aRateControlAbility attribute should be changed to enable and disable rate control by removal of the mention of operating speeds above 1Gb/s.

Item 1:

Add the new attribute aRateControlConfig as follows:

aRateControlConfig

ATTRIBUTE

APPROPRIATE SYNTAX:
An ENUMERATE VALUE that has one of the following entries:
WAN WAN rate control
FEC FEC rate control

A GET operation returns the current Rate Control configuration of the MAC sublayer as defined in 4.4.2. A SET operation changes the Rate Control configuration of the MAC sublayer to the indicated value. A SET operation shall have no effect on a device whose mode cannot be changed through management or that can only operate in a single mode. Operation in the selected mode is enable and disabled through the attribute aRateControlStatus.

Item 2:
Change the existing attribute aRateControlAbility to read as follows:

30.3.1.1.33 aRateControlAbility
ATTRIBUTE
APPROPRIATE SYNTAX:
BOOLEAN
BEHAVIOUR DEFINED AS:
True" where Rate Control through lowering the average data rate of the MAC sublayer", with frame granularity, is supported (see 4.2.3.2.2)," and "false" otherwise.;

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.2** *P* **34** *L* **27** # **860**
Tom Mathey Independent

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

The aPhyType paragraph needs to have the new optical phy's added to the enumeration list.

This should also apply to 30.3.2.1.3 aPhyTypeList.

There may also be other places, such as:
30.5.1.1.2 aMAUType
30.5.1.1.2 BEHAVIOUR DEFINED AS:

where the text for Clause 45 is specific to 10Gig.

SuggestedRemedy

Add:

1000BASE-PX10 Clause 58 (long wavelength passive optical networks)
1000BASE-PX20 Clause 58 (long wavelength passive optical networks)
1000BASE-LX10 Clause 59 (Long Wavelength)
1000BASE-BX10 Clause 59 (BiDirectional Long Wavelength)
100BASE-LX10 Clause 60 100 Mb/s (Long Wavelength)
100BASE-BX10 Clause 60 100 Mb/s (BiDirectional Long Wavelength)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The aPHYType and aPHYTypeList attributes can only return the information which the Clause 22 registers provides which does not include the PMD type, only the PCS [see 22.2.4.2 Status register (Register 1)]. This is why the existing attribute definition only provides an enumeration for 1000BASE-X and not an enumeration for both 1000BASE-LX and 1000BASE-SX. More information on the PMD can be obtained through the aMAUType attribute (30.5.1.1.2) which we are adding the suggested enumerations to. Note however even aMAUType provides for the situation where only 1000BASE-X will be returned - this would happen in the case of a plug-able PMD (e.g. GBIC) port which did not have the ability to read the plug-able PMD type.

Summary - No update to 30.3.2.1.2 and 30.3.2.1.3.

In respect to the 30.5.1.1.2 behavior the text related to Clause 22 is still valid for all these new PHYs as the Clause 22 registers only provides the ability to read that the PHY type is 1000BASE-X. There is no update to Clause 22 to provide more information on the PMD type for these new PMDs and from what I can see there are no additional Clause 45 registers to support indicating the PMD type in Clause 58, 59 or 60.

Summary - No update to 30.5.1.1.2 behavior description.

The PHY names however do need updated to match the names currently in use in Clause 58, 59 & 60.

Summary - Update PHY names in 30.5.1.1.2.

Cl **30** *SC* **30.3.2.1.2** *P* **34** *L* **38** # **579**
Horvat, Michael Infineon Technologies

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

2BASE-TL entry of "aPhyType":
Data rates and profiles for 2BASE-TL are defined in clause 63.

SuggestedRemedy

Replace "2BASE-TL Clause 61 0.5Mb/s to 3 Mb/s TC-PAM" by "2BASE-TL Clause 61, 63 0.5Mb/s to 3 Mb/s TC-PAM".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.3** *P* **35** *L* **7** # **590**
Horvat, Michael Infineon Technologies

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

2BASE-TL entry of "aPhyTypeList":
Data rates and profiles for 2BASE-TL are defined in clause 63.

SuggestedRemedy

Replace "2BASE-TL Clause 61 0.5Mb/s to 3 Mb/s TC-PAM" by "2BASE-TL Clause 61, 63 0.5Mb/s to 3 Mb/s TC-PAM".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.3.2** *P* **36** *L* **25** # **1102**

Law, David 3Com

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

In the attribute aMACControlFunctionsSupported change the list of MPCP enumerations to just MPCP. As the attribute states there is a object class associated with each function on MPCP is a single function with a single object.

SuggestedRemedy

Change the text:

"

PAUSE PAUSE command implemented
GATE ...
REPORT ...
... ...
REG ACK ...
"

to read:

"

PAUSE PAUSE command implemented
MPCP MPCP implemented
"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5** *P* **45** *L* **1** # **1206**

Booth, Brad Intel

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

Editing instruction needs to be bold.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5.1.13** *P* **47** *L* **52** # **1105**

Law, David 3Com

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

An increment rate needs to be supplied for the attribute aMPCPDiscoveryTimeout.

SuggestedRemedy

Add an increment rate for aMPCPDiscoveryTimeout.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5.1.5** *P* **46** *L* **17** # **207**

Zheng, Caihua I2R

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

The cross reference to 65.1.3.1.2 is wrong.

SuggestedRemedy

It should be 65.1.2.3.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5.1.8** *P* **47** *L* **2** # **1104**

Law, David 3Com

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

Suggest that the behaviour can be clarified for the attributes aMPCPTransmitElapsed, aMPCPReceiveElapsed and aMPCPRoundTripTime as follows:

SuggestedRemedy

Suggest that the aMPCPTransmitElapsed behaviour be change to read:

A read-only value that reports the interval from last MPCP frame transmission in increments of 16ns. The value returned shall be (interval from last MPCP frame transmission in ns)/16, where this value exceeds (2^32-1) the value (2^32-1) shall be returned.'

Suggest that the aMPCPRoundTripTime behaviour be change to read:

A read-only value that reports the MPCP round trip time in increments of 16ns. The value returned shall be (round trip time in ns)/16, where this value exceeds (2^16-1) the value (2^16-1) shall be returned.

A read-only value that reports the interval from last MPCP frame reception in increments of 16ns. The value returned shall be (interval from last MPCP last MPCP frame reception in ns)/16, where this value exceeds (2^32-1) the value (2^32-1) shall be returned.'

Suggest that the aMPCPReceiveElapsed behaviour be change to read:

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5.2.1** *P* **48** *L* **25** # **1207**

Booth, Brad Intel

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

Large blank space.

SuggestedRemedy

Remove unnecessary page break.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1** *P* **44** *L* **13** # **498**

Khermosh, Lior Passave

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

Error monitor counters for FEC sublayer - similar to clause 36 and to clause 62 FEC counters.
See also comment 13 for clause 65

SuggestedRemedy

30.5.1.1.28 aBuffer_head_coding_violation
ATTRIBUTE
APPROPRIATE SYNTAX:
Generalized nonresettable counter. This counter has a maximum increment rate of 25 000 000 counts per second for 1000 Mbps implementations.

BEHAVIOUR DEFINED AS:
"For 1000 Mbps operation it is a counts of the number of invalid code-group received directly from the link.";

30.5.1.1.29 aFEC_corrected_Blocks
ATTRIBUTE
APPROPRIATE SYNTAX:
Generalized nonresettable counter. This counter has a maximum increment rate of 25 000 000 counts per second for 1000 Mbps implementations.

BEHAVIOUR DEFINED AS:
"For 1000 Mbps operation it is a counts of the number of corrected FEC blocks in the FEC decoding.";

30.5.1.1.30 aFEC_uncorrected_Blocks
ATTRIBUTE
APPROPRIATE SYNTAX:
Generalized nonresettable counter. This counter has a maximum increment rate of 25 000 000 counts per second for 1000 Mbps implementations.

BEHAVIOUR DEFINED AS:
"For 1000 Mbps operation it is a counts of the number of uncorrected FEC blocks in the FEC decoding.";

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1. Add new aBuffer_head_coding_violation attribute but name it aBufferHeadCodingViolation.

2. Extend current copper corrected and uncorrected counters to cover all FEC capable PHYs - see comment #862.

Cl **30** *SC* **30.5.1.1.12** *P* **40** *L* **16** # **1077**

Law, David 3Com

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

Typo.

SuggestedRemedy

'"For ...' should read 'For ...'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.14** *P* **40** *L* **33** # **580**

Horvat, Michael Infineon Technologies

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

"aPHYCurrentStatus" is an important attribute for 2BASE-TL as well.

SuggestedRemedy

Additional definition of "aPHYCurrentStatus" attribute for 2BASE-TL using "PHY counters" in 45.6.1.3 on page 102 line 31 as appropriate syntax.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.14** *P* **40** *L* **49** # **861**

Tom Mathey Independent

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

The text for aPHYCurrentStatus calls out 10BASE-T PHY instead of ?, since reference to 62.5.6.3.3 is now out of date.

SuggestedRemedy

Change to correct reference.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Should read 10PASS-TS.

Cl **30** *SC* **30.5.1.1.15** *P* **41** *L* **2** # **1103**

Law, David 3Com

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

The increment rate for the attributes aPMACorrectedBlocks and aPMAUncorrectableBlocks are missing. It has been suggested that these increment rates be based on a 128 Byte Block size.

SuggestedRemedy

Add increment rate to the attributes aPMACorrectedBlocks and aPMAUncorrectableBlocks based on a 128 Byte Block size.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Ensure this increment rate is correct when counter is extended to apply to all FEC capable PHYs.

Cl **30** *SC* **30.5.1.1.16** *P* **41** *L* **12** # **862**

Tom Mathey Independent

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

The paragraph text for aPMAUncorrectableBlocks is too specific as it only allows 10PASS-TS PHY.

SuggestedRemedy

As there is more than one phy adding a FEC layer, add text to cover the FEC layer in the EPON case.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1. Move aPMACorrectedBlocks and a PMAUncorrectedBlocks to be subclauses 30.5.1.1.13 and 30.5.1.1.14 and move aPhySide to be 30.5.1.1.14.

2. Rename both these attributes to be aFECCorrectedBlocks and aFECUncorrectedBlocks.

3. Include additional FEC capable PHYs in behavior description.

Cl **30** *SC* **30.5.1.1.2** *P* **37** *L* **1** # **1204**

Booth, Brad Intel

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

aMAUType information is hard to read on page 37.

SuggestedRemedy

Change tab placement to make readable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.23** *P* **42** *L* **47** # **1106**

Law, David 3Com

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

Add the enumerations for aBandNotchProfile as specified in subclause 62A.3.6. Also correct the cross reference on line 53 which should be to 62A.3.6.

SuggestedRemedy

Item 1:

Add the following text after "An ENUMERATED value that has one of the following entries:"

"

1 band notch profile 1
2 band notch profile 2
3 band notch profile 3
4 band notch profile 4
5 band notch profile 5
6 band notch profile 6
7 band notch profile 7
8 band notch profile 8
9 band notch profile 9
10 band notch profile 10
11 band notch profile 11
"

Item 2:

Change the cross reference on line 53 to be to 62A.3.6.

Item 3:

Remove Editors note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.24** *P* **43** *L* **18** # **1098**

Law, David 3Com

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

Suggest that cross reference to 62A.3.4 in attributes aPayloadRateProfileUpstream and aPayloadRateProfileDownstream is incorrect as 62A.3.4 is Band Notch Profile. Subclause 62A.3.5, 'Payload Rate Profiles' would seem to be the correct refernce.

SuggestedRemedy

Change 62A.3.4 to 62A.3.5 in the attributes aPayloadRateProfileUpstream and aPayloadRateProfileDownstream on lines 18 and 29.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.26** *P* **43** *L* **42** # **1074**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Add the enumerations for aBandplanPSDMaskProfile as specified in subclause 62A.3.1. Also correct the cross reference on line 45 which should be to 62A.3.1.

SuggestedRemedy
Item 1:

Add the following text after "An ENUMERATED value that has one of the following entries:"

1 profile number 1
2 profile number 2
3 profile number 3
4 profile number 4
5 profile number 5
6 profile number 6
7 profile number 7
8 profile number 8
9 profile number 9
10 profile number 10
11 profile number 11

Item 2:
Change the cross reference on line 45 to be to 62A.3.1.

Item 3:
Remove Editors note.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.27** *P* **43** *L* **51** # **1107**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
Change the comment text to match the text in table 63A-1.

SuggestedRemedy
In the comment text for the enumerations change 'operating profile' to read 'profile number' in each of the 10 lines from Page 43 line 53 to page 44 line 9.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **30.5.1.1.27** *P* **44** *L* **14** # **1205**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Large blank space.

SuggestedRemedy
Delete page break.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-3** *P* **30** *L* **1** # **1067**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Remove the oPD managed object - management of PDs has been removed from IEEE P802.3af DTE Power via MDI.

SuggestedRemedy
Remove the oPD managed object from Figures 30-3, 30-4 and 30-5.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-3** *P* **30** *L* **1** # **1073**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
Assuming my other comment is accepted in relation to changing the editing instructions to provide the additional instruction Replace change the instruction for this figure to be replace.

If the other comment is not accepted change the instruction to be Delete the current Figure 30-3 and Insert new Figure 30-3 as follows.

SuggestedRemedy
See comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-3** *P* **30** *L* **1** # **1065**
Law, David 3Com

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

Since the removal of the oOMPMuxing object from the OMP DTE System entity relationship diagram (Figure 30-3) the diagram has become the same as the DTE System entity relationship diagram (Figure 30-4) - the only difference is the oOMPEmulation object in the OMP DTE System entity relationship diagram. Based on this the Figure 30-4 should be removed and Figure 30-3 renamed DTE System entity relationship diagram since the only reason originally for the two figures was due to the additions that OMP originally caused.

SuggestedRemedy

Remove current Figure 30-4 and rename Figure 30-3 to be 'DTE System entity relationship diagram'. New Figure 30-5 will become 30-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-3** *P* **30** *L* **37** # **1068**
Law, David 3Com

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

Figure 30-3 and 30-4.

Incorrect cross-references. oPSE is subclause 30.9.1, oWIS is 30.8.1.

SuggestedRemedy

Figure 30-3, Page 30
Line 37 - Change the text '30.10.1' to read '30.9.1'.
Line 44 - Change the text '30.9.1' to read '30.8.1'.

Figure 30-4, Page 31
Line 33 - Change the text '30.10.1' to read '30.9.1'.
Line 40 - Change the text '30.9.1' to read '30.8.1'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-3** *P* **30** *L* **38** # **928**
Daines, Kevin World Wide Packets

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

It appears the change bar floated to the middle of the figure. Should these be aligned in the column?

SuggestedRemedy

Fix change bars on lines 38 and 44.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-4** *P* **31** *L* **40** # **929**
Daines, Kevin World Wide Packets

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

It appears the change bar floated to the middle of the figure. Should this be aligned in the column?

SuggestedRemedy

Fix change bar on line 40.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **Figure 30-5** *P* **32** *L* **7** # **1066**
Law, David 3Com

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

The MAU oResourceTypeID object is only present if a MII is present. It should be marked as such in the same way as that the MAU oResourceTypeID object in Figure 30-3.

SuggestedRemedy

Add the text 'Present if MII' in a dotted box in the MAU oResourceTypeID object box.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30A** *SC* **30A** *P* **62** *L* **29** # **1099**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Annex 30A and 30B are missing.

SuggestedRemedy
See proposed Annex 30A that I will supply.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Clause 30 editor to produce Annex 30A and 30B based on Clause 30 once the comment resolutions from D1.414 are applied.

Cl **31A** *SC* **31A** *P* **442** *L* **14** # **991**
Maislos, Ariel Passave

Comment Type **E** *Comment Status* **D**
remove strikethrough and underline markings

SuggestedRemedy
see comment

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **31A** *SC* **31A** *P* **443** *L* **4** # **990**
Maislos, Ariel Passave

Comment Type **T** *Comment Status* **D**
Update tables to reflect latest interface specification for MPCP protocol

SuggestedRemedy
see comment

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Based on resolutions to comments changing interfaces tables 31A-3 to 31A-6 shall be updated

Cl **36** *SC* *P* **63** *L* **1** # **1209**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Update title to match TOC.

SuggestedRemedy
Alter Changes to be Revisions.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **36** *SC* *P* **63** *L* **4** # **1210**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Include statement about approved supplements and amendments.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Editor is willing to comply if more details can be provided.
See #1185, #1188 & #1198

Cl **36** *SC* **36.2.5.1.3** *P* **64** *L* **29** # **1211**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Use defined editing instructions throughout clause.

SuggestedRemedy
Alter Modify to be Change.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* *P* **65** *L* **1** # **1212**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Title is incorrect.

SuggestedRemedy
Change to read:
Revisions to ANSI/IEEE St 802.3ae, 2002, Clause 45

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* *P* **65** *L* **4** # **1213**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing editing instructions.

SuggestedRemedy
Insert the following:
EDITORIAL NOTES - This amendment is based on the current edition of IEEE Std 802.3ae, 2002 and its approved supplements and amendments. The editing instructions define how to merge the material contained here into the base document set to form the new comprehensive standard as created by the addition of P802.3ah.

Copy editing instructions from previous clauses (i.e. Clause 36) for insertion after above text.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* *P* **66** *L* **3** # **1072**
Law, David 3Com

Comment Type **E** *Comment Status* **D**
The editing instruction are missing from this Clause.

SuggestedRemedy
Please add editing instruction as have been provided in other update Clauses.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* *P* **66** *L* **3** # **1214**
Booth, Brad Intel

Comment Type **TR** *Comment Status* **D**
802.3ae has been published and has been available for the editor to make the required changes.

SuggestedRemedy
Update Clause 45 to contain the correct editing instructions. Editor is suggested to coordinate with the 802.3ak and 802.3aj editors to ensure that changes match with those efforts.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* *P* **79** *L* **47** # **868**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
First letter of sentence needs to be capital.

SuggestedRemedy
This

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **00** *P* **72** *L* **25** # **850**
Carlo, James J.Carlo Consulting sup

Comment Type **E** *Comment Status* **D**
This is a general comment. The tables generally contain R/W while the footnotes to the table contain RW. Need to be consistent (unless there was more here than I think there is).

SuggestedRemedy
Use R/W in footnote to all Tables where applicable. Do a global search.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.1** *P* **66** *L* **32** # **1215**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Change -"R" to be "-R".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.1** *P* **66** *L* **40** # **849**

Carlo, James J.Carlo Consulting sup

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

I must have read this clause thirteen times to try to figure out what is actually going on (even token ring was not this confusing). What is confusing to me is the "Remote" registers and the use of the term 10BASE-TS-R (where the "R" denotes "Remote"). So:

a) Are the Remote registers those registers that are located on the 10BASE-TS-R and are undefined for the "Remote". Or are they located only on the 10BASE-TS-O adn thus undefined for the 10BASE-TS-R. If so, why are not they called "Central Office" registers?

SuggestedRemedy

If I could figure out the answer to my question, I could better suggest a remedy.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The remote registers exist only in the central office 10BASE-TS-O.

They are called "remote" registers because they address functions the remote PHY. The name comes from the function, not the home of the register.

This is the third time I've tried to rewrite the text to be clearer. So far I don't seem to have got it down yet.

The editor will welcome any advice to clarify the description of this concept.

Cl **45** *SC* **45.1** *P* **66** *L* **52** # **612**

Debbasch, Bernard GlobespanVirata

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

The notation 'N' for Immediate acting registers and 'I' for the one which requires Link activation is counter-intutive.

SuggestedRemedy

'I' should be used of Immediate acting registers and 'L' for the one which requires Link activation is counter-intutive.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

I like this idea.

Cl **45** *SC* **45.2** *P* **67** *L* # **1112**

Simon, Scott Cisco Systems, Inc.

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

Need a register to control and report link status of the EFM PHY

SuggestedRemedy

A register that reports current status of the link: up, down, training.
Also a register bit that sets link status: force link up, force link down, reset link, etc.

Also a register that counts the number of times the link has been lost.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2** *P* **67** *L* **27** # **1216**

Booth, Brad Intel

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

In Table 45-1, remove excess capitalization.

SuggestedRemedy

Change the following:
PHY-MAC Rate Matching register to PHY-MAC rate matching register
PMD Available register to PMD available register
PMD Aggregate register to PMD aggregate register
Aggregation Discover Control register to Aggregation discover control register
Aggregation Discovery code register to Aggregation discover code register

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P* **68** *L* **1** # **1217**

Booth, Brad Intel

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

Improper use of caps.

SuggestedRemedy

Change Coding Violation Counter to Coding violation counter in the heading, table title and table. Change to coding violation counter in the description.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1** *P* **68** *L* **6** # **1218**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote doesn't follow Clause 45 format.

SuggestedRemedy
In table heading, add footnote to R/W. Change footnote to read:
NR = Non Roll-over, RO = Read Only
Change R/W value for register bits to be: RO, NR

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2** *P* **68** *L* **19** # **1219**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Misuse of caps.

SuggestedRemedy
Change General to general.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* # **1110**
Simon, Scott Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D**
Need a register to say which port sub type the PHY supports

SuggestedRemedy
Add 2 register bits somewhere. Bit 0 = true = -O supported. Bit 1 = true = -R supported

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* **21** # **1220**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Caps.

SuggestedRemedy
Change EFM Cu PHY Control register to be EFM Cu PHY control register throughout subclause.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* **24** # **1221**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Font size.

SuggestedRemedy
Fix font size of Table 45-3 in register description.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* **27** # **582**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Table 45–3—EFM Cu Control register bit definitions:
Bit 14 not explained.

SuggestedRemedy
Add information about bit 14.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Bit 14 should be glommed with the reserved bits.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* **30** # **1222**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Add footnote to table heading.

SuggestedRemedy
Add footnote to R/W to read:
R/W = Read/Write

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.2.1** *P* **68** *L* **34** # **1030**

Barrass, Hugh — Cisco Systems

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

Table 45-3 needs 2 more bits for PAF availability and enable.

SuggestedRemedy

Add bits:

3.x.13 PAF_available 1, PAF function is available RO
3.x.12 PAF_enable 1, PAF function is enabled R/W

Add subsection:

45.2.2.1.2 PAF_available (3.x.13)

This bit is asserted if the PAF function is available as defined in 61.2.2. This bit is readable remotely for R-subtype devices.

Add subsection:

45.2.2.1.3 PAF_enable (3.x.12)

This bit is written by management to indicate that PAF function is to be used as defined in 61.2.2 (if available). For R-subtype devices this bit shall be remotely read/write and locally read-only.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3** *P* **68** *L* **43** # **1223**

Booth, Brad — Intel

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

Use of caps throughout clause.

SuggestedRemedy

It would take to long to enter every instance. If the word is not an abbreviation or an acronym, then it should only have the first letter in upper case if it starts a sentence, description or title; otherwise, it should be lower case.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.1.1** *P* **68** *L* **49** # **864**

Tom Mathey — Independent

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

The MMD register bit 3.44.15, "MII cannot TX/RX simultaneously". (default), may have an inherent, uncorrectable defect.

Consider the following case:

1. the transmit path is quiet
2. the receive path is quiet
3. there is no information available on either path that the other path is about to become active
4. within the same clock cycle or a very few number of clock cycles
   a. the transmit path starts a frame from MAC to PHY
   b. the receive path starts a frame from PHY to MAC
5. variable 3.44.15 is set to 0, not able to TX/RX simultaneously
6. something in the MAC breaks, and there is no way to recover as collision signal is held inactive.
7. even if collision signal is set active, it is very awkward for the phy receive path to rewind / roll-back its fifo/buffer pointer/address to start of packet.

SuggestedRemedy

Discuss how to fix. I know of no easy solution.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This comment needs to be addressed in C61.

Cl **45** *SC* **45.2.3.1.1** *P* **68** *L* **53** # **863**

Tom Mathey — Independent

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

but

SuggestedRemedy

bit

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.1.1** *P* **68** *L* **53** # **481**
Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**
Typo - replace "but" with "bit"

SuggestedRemedy
replace "but" with "bit"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.4.1** *P* **69** *L* **40** # **1224**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Poor grammar.

SuggestedRemedy
The use of 'may' implies that something is optional. Delete the word 'optionally'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.4.1** *P* **70** *L* **6** # **1225**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
This comment is for all the tables in Clause 45. The R/W in the table heading should have the footnote applied to it.

SuggestedRemedy
Add or change footnotes so that footnote 'a' is for the table header R/W and lists only the following corresponding definitions as applicable for each table:
RO = Read Only
R/W = Read/Write
NR = Non Roll-over
SC = Self Clearing
LL = Latching Low
LH = Latching High

Clear upon read or CR are defined in the description of the register, not in the R/W value.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.4.3** *P* **70** *L* **52** # **482**
Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**
Typo - "Discover" on lines 52 and 54

SuggestedRemedy
Replace "Discover" with "Discovery"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.4.3.1** *P* **71** *L* **20** # **586**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
No schedule for the Discovery operation defined yet.

SuggestedRemedy
Specify the way of processing Discovery operation in detail, e.g. by handshake, EOC.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

These details need to be hashed out in C61. It is possible that this hashing process will generate some new C45 registers.

see 61.2.2.6.4 and comment #1006

Cl **45** *SC* **45.2.4.8** *P* **73** *L* **29** # **588**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
The further Handling of the fragment that causes the overflow is not clear.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.

There is no suggested remedy and it appears that the comment is against C61.

Cl **45** *SC* **45.2.5** *P* **74** *L* **31** # **1226**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Change
See (see 61.2.3)
to read
See 61.2.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.5.1** *P* **74** *L* **36** # **1227**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Font size.

SuggestedRemedy
Font size of Table 45-15 in description doesn't match text.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.2.5.1** *P* **74** *L* **39** # **583**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
According to "sync detect state machine" default state will be "Looking". But the default value of "TPS-TC sync lost" is 0.

SuggestedRemedy
Set "TPS-TC sync lost" default to 1.
Set "TPS-TC sync lost" to 0 if synchronized.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.3.1.3** *P* **75** *L* **52** # **866**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
I really do wish that the EFM copper phy's could operate at 10G.

SuggestedRemedy
Fix.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Done.

Cl **45** *SC* **45.3.1.3** *P* **75** *L* **54** # **1228**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Editor's note in the text.

SuggestedRemedy
Either delete the note or move it out of the text.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.3.1.4** *P* **76** *L* **22** # **1230**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in the register description.

SuggestedRemedy
Move footnote to the register description.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.3.1.7.1** *P* **77** *L* **37** # **1231**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Lack of description, but also lack of explanation of whether the value of 0 is valid.

SuggestedRemedy
Add description and include information that specifies that a value of zero implies that the device has been unable to determine the electrical length.

This comment also applies to 45.3.1.8.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.3.1.8** *P* **77** *L* **42** # **1232**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing 'Remote'.

SuggestedRemedy
Change description to be 'remote electrical length'.

In table 45.22, change name to be 'Remote electrical length'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.3.1.8.1** *P* **78** *L* **1** # **1233**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing 'remote'.

SuggestedRemedy
Change title to be 'Remote electrical length (1.x.15:0)'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4** *P* **82** *L* # **1111**
Simon, Scott Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D**
The new notches don't have registers

SuggestedRemedy
Add register bits for -O and -R control of all notches in 62A.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1** *P* **78** *L* # **1109**
Simon, Scott Cisco Systems, Inc.

Comment Type **T** *Comment Status* **D**
Need a register for SCM to control excess bandwidth.

SuggestedRemedy
Add a register to mesh with 62.5.2.2.4

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.1** *P* **78** *L* **14** # **1234**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period.

SuggestedRemedy
Missing period after 'Table 45-23'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.1.1** *P* **78** *L* **48** # **867**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
Font style

SuggestedRemedy
Bold

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.1.1** *P* **78** *L* **48** # **1235**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Incorrect header font.

SuggestedRemedy
Re-apply header attributes.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.10** *P* **87** *L* **27** # **1241**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in register description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.10** *P* **87** *L* **6** # **1240**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table in middle of paragraph.

SuggestedRemedy
Move table anchor point or turn off floating table properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.12** *P* **89** *L* **25** # **1242**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in register descriptions.

SuggestedRemedy
As per comment.

Also applies to Table 45-35.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.14** *P* **90** *L* **8** # **922**
O'Mahony, Barry Intel Corp.

Comment Type **E** *Comment Status* **D**
I believe the formulae for PSD Level is incorrect the Table 45-34 and 45-35, in comparison to that in the SCM VDSL spec.

SuggestedRemedy
Should be:

PSD Level = P*4 - 100 dBm/Hz

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.16** *P* **91** *L* **44** # **1243**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing 'recommended'.

SuggestedRemedy
Change to read: recommended center frequency

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.16** *P* **91** *L* **45** # **1244**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period at end of paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.19** *P* **93** *L* **27** # **1245**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Typos.

SuggestedRemedy
Add 'remote recommended' before 'center frequency'. Add period at end of paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.2** *P* **79** *L* **30** # **1236**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Join "- and R" to be on same line.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.21** *P* **94** *L* **40** # **1246**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 45-42 is different width than Table 45-41.

SuggestedRemedy
Make widths similar.

Also applies to Table 45-43.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.22** *P* **95** *L* **9** # **1247**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Period required at end of paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.4** *P* **82** *L* **31** # **1031**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
Notch 5 (14.000MHz) and Notch 6 (18.068MHz) are not relevant.

SuggestedRemedy
Table 45-26 - remove Notch 5 & Notch 6 from this table.

Also remove 45.4.1.4.8 and 45.4.1.4.9

Also Table 45-27 - remove Notch 5 & Notch 6

remove 45.4.1.5.8 and 45.4.1.5.9

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

see comment #1113

Cl **45** *SC* **45.4.1.5** *P* **83** *L* **16** # **1032**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
Definition is required for UPBO mode

SuggestedRemedy
Add a bit:

1.x.8 PSDref mode 0 = Noise model A O = R/W
1 = Noise model F R = undefined

Add subclause

45.4.1.5.3 PSDref mode

This bit selects the noise model assumption used for PSDref calculation for Upstream Power Back Off. See 62.4.4.2.2 for definition of UPBO.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.5** *P* **83** *L* **38** # **1237**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in register description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.7** *P* **84** *L* **21** # **870**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
Reference to Table 45-20 should be to Table 45-28.

SuggestedRemedy
Change to Table 45-28.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.4.1.8** *P* **85** *L* **44** # **1239**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in register description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.5** *P* *L* # **614**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
To support fix rate profile, we should define rate definition registers for both DS & US independently. These regeisters should common for both the line codes.

DS: 5, 7.5, 10, 12.5, 15, 25, 35, 50
US: 2.5, 5, 7.5, 10, 12.5, 15, 25, 35

2.5 in DS translates into 0 in US; hence its removed.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Clause 62A is intended to map the selected data rate profile to register settings. The data rate is never explicitly selected in C45

Cl **45** *SC* **45.5** *P* **95** *L* **47** # **871**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
The text for 45.5 wanders over many pages. In these pages, it becomes hard for the reader to identify if text applies to MCM, SCM, 2-BASE, etc.

SuggestedRemedy
For all subclauses, pre-pend title such as MCM, SCM, 2BASE-TL, etc.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This is a good idea for now. Once the clause is integrated into the official Clause 45, we may have to revisit this issue.

Cl **45** *SC* **45.5.1** *P* **95** *L* # **613**

Debbasch, Bernard GlobespanVirata

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

Comment Section 45.5.1.2 thru 45.5.1.5

Instead of the Tone Group & Tone Group Control model, Link activation procedure (strat-up sequence) defined in T1E1 Trial Use Standard T1.424 Part 3 should be used.

Relevant parameters/sections within T1.424 Trial Use Standard, Part 3 are as follows:
Handshake procedure, Section 11.2.3
- FFT/IFFT Size
- Initial CE Length
- Enable Optonal Band Flag

O-Signature, Section 11.2.4.2.1.1
- Used Band in Downstream
- Used Band in Upstream
- RFI Bands
- Tx PSD in DownStream
- Tx/Rx PSD mask selector for PBO
- Maximal Tx PSD in upstream
- Reference PSD
- Length of the Tx Window

R-MSG1, Section 11.2.4.3.1.1
- Tx PSD in Upstream
- Echo Canceller Training Flag

O-MSG2, Section 11.2.6.2.1.1
- Minimal SNR Margin
- Maximal Constellation Size (Bmax)
- RS setting
- Interleaver settings
- Detailed Interleaver Settings
- Maximal power in DownSteam
- Maximum Interleaver Delay
- Max number of EOC bytes per frame in DownStream
- Max number of VOC bytes per frame in DownStream
- Support of express bit swapping
- Jmax

R-MSG2, Section 11.2.6.3.1.1
- Maximal Constellation Size (Bmax)
- RS setting
- Interleaver settings
- Detailed Interleaver Settings
- Maximal power in UpStream
- Maximum Interleaver Memory
- Max number of EOC bytes per frame in UpStream
- Max number of VOC bytes per frame in UpStream
- Support of express bit swapping
- Jmax

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Wow. Thanks for taking this on. The commenter is beseeched to provide some text.

Cl **45** *SC* **45.5.1.1** *P* **96** *L* **1** # **1248**

Booth, Brad Intel

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

Table is in the middle of the paragraph.

SuggestedRemedy

Change anchor point or table properties.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.5.1.1** *P* **97** *L* **37** # **1249**

Booth, Brad Intel

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

Use abbreviation MMD instead of MDIO Manageable Device.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.5.1.2** *P* **98** *L* **16** # **1250**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
This comment applies to 45.5.1.2 and 45.5.1.3. The register description should come after the heading and before the table.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.5.1.3** *P* **98** *L* **21** # **1252**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table heading missing text 'bit definitions'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.5.1.3** *P* **98** *L* **45** # **1251**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Description uses 'Tone Control Action' when it should use 'tone control parameter'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.5.1.5** *P* **100** *L* **26** # **1254**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
CR in Table 45-48 should be described in register bit description.

SuggestedRemedy
As per comment. Delete CR from table.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6** *P* **99** *L* **45** # **1253**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Move 45.6 and its subclauses to after Table 45-8.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.1** *P* **100** *L* **2** # **584**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Figure 45-1 and Table 45-48 belong to 10PASS-TS.

SuggestedRemedy
Shift Figure 45-1 and Table 45-48 before 45.6 .

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The tables fall properly where framemaker puts them.

Cl **45** *SC* **45.6.1.2** *P* **101** *L* **1** # **585**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Value for Data rate in Table 45-50 is not clear if Profile is set in Table 45-49 and, respectively, the inverse case.

SuggestedRemedy
Definition of default values for Data rate and Profile.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Text to be added that the profile overrides any settings in the local/remote paramater registers.

A "no profile" bit should be added enable the local/remote parameter register.

Cl **45** *SC* **45.6.1.2** *P* **101** *L* **33** # **1255**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Register description should come before table.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.2** *P* **101** *L* **38** # **1256**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Period missing at end of 2nd paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.3** *P* **102** *L* **16** # **1258**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote b should be in register description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.3** *P* **102** *L* **19** # **1257**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Register description should come before table.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.3** *P* **102** *L* **21** # **872**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
Given the text

"Since writing to this register does not have an immediate effect, reading this register returns the desired parameters, which are not necessarily the current operating parameters."

leads to the following conclusion:

text should state how the values are transferred to their final destination, and if there is a time delay from transfer to being used, then a status bit to say that such a transfer is in effect, and a status bit to indicate if the operation is successful.

SuggestedRemedy
Add text.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

All of the suggested remedy is correct, but more importantly, the text needs to be derived from the appropriate place in C61/62.

Cl **45** *SC* **45.6.1.3** *P* **102** *L* **27** # **1259**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period at end of paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **45** *SC* **45.6.1.3** *P* **102** *L* **28** # **587**

Horvat, Michael — Infineon Technologies

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

PHY counters: No transmission method declared

SuggestedRemedy

Use EOC for transmission of the primitive registers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Clause 45 does not describe the mechanism for transmitting the counters, only the structure of the counters themselves.

If the counters described in Clause 45 do not have mechanisms behind them, then they should be removed. Or, the mechanism should be added to Clauses 61/62.

Editors/STF to verify that existing mechanisms (e.g., VOC) are sufficient for transmitfing this information

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Cl **45** *SC* **45.6.1.3** *P* **102** *L* **40** # **581**

Horvat, Michael — Infineon Technologies

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

"Port sub-type select" consists of only 1 bit; the sentence "Writes to change to an unsupported mode are ignored" seems to be redundant.

SuggestedRemedy

Delete this sentence.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The sentence is unclear. New text will clarify that if the user tries to select a mode that the PHY does not support, the PHY will ignore the request.

Cl **45** *SC* **45-48** *P* **100** *L* **49** # **851**

Carlo, James — J.Carlo Consulting sup

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

Why not use the notation R: undefined, rather than this sentence in the table. Possibly I don't understand the notation (see earlier comment).

SuggestedRemedy

Not sure.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **Table 45-24** *P* **80** *L* **8** # **869**

Tom Mathey — Independent

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

It would be very useful if the increasing binary values for interleave block side matched the increasding value of the block size

SuggestedRemedy

change to:
01 = DS interleaver block size = 25
10 = DS interleaver block size = 50
11 = DS interleaver block size = 100

Also on line 19; and Table 45-25

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **Table 45-34** *P* **90** *L* **1** # **540**

Shohet, Zion — Infineon

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

In tables 45-34 and 45-35, the equation "PSD Level = P/4 + 100" in the description colomn is in correct.
Shopuld be: "PSD Level = P/4 - 100"

SuggestedRemedy

In table 45-34 replace all equations with "PSD Level=P/4 - 100".
In table 45-35 replace all equations with "PSD Level=P/4 - 100".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **Table 45-7** *P* **71** *L* **12** # **865**
Tom Mathey Independent

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

There is only one bit to identify two pieces of information. These are:

1. The operation is in process
2. The pass / fail status once the operation is complete.

SuggestedRemedy

Split MMD bit 3.49.13 into at least two bits.

one bit to start the operation, or describe how the operation is started.
one bit which says the operation is in process.
one bit which provides the pass or fail status.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Setting bits 15:14 start the operation. While the operation is in progress, they remain at the set value. They return to 00 when the operation is complete. Bit 13 describes if the operation was successful. That should cover it.

Cl **46** *SC* *P* **103** *L* **1** # **1260**
Booth, Brad Intel

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

Title doesn't match TOC.

SuggestedRemedy

Alter Changes to be Revisions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **46** *SC* **46.3.4** *P* **104** *L* **7** # **1261**
Booth, Brad Intel

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

Incorrect editing instructions.

SuggestedRemedy

Alter Modify to be Change.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **46** *SC* **46.3.4 Link fault sign** *P* **104** *L* **15** # **873**
Tom Mathey Independent

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

The Link fault signaling paragraph needs to be tightened in its description. When the variable "unidirectional_oam_enable" is true, then the only frames which can escape the upper layer are OAM frames. The management bit 0.1 enables only the unidirectional transmit of OAM frames, not MAC data frames.

Per clause5 7.3.3, page 129, line 41:
"Since only OAMPDUs may be sent on a unidirectional link, ..."

SuggestedRemedy

On lies 14 and 17, change MAC data to OAM frames.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This bit allows the MAC to transmit all frames, not just OAMPDUs, even though those are the only ones that should be transmitted. If another protocol is created in the future that enables unidirectional transmissions, we don't want to have to enumerate those frames specifically, having to open clauses 24, 36 & 46. Keep these clauses generic.

Cl **46** *SC* **46.3.4.3** *P* **104** *L* **50** # **874**
Tom Mathey Independent

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

The above description of link_fault = Local Fault currently breaks the 64B/66B encoder.

SuggestedRemedy

Have the RS send at least one column of idle prior to sending RF code.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The commenter is urged to work with Eric Lynsky to provide the specific wording for this change.

Cl **46** *SC* **46.3.4.3** *P* **104** *L* **50** # **1262**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 49-7 in IEEE Std 802.3ae, 2002 is missing a number of possible valid encodings.

SuggestedRemedy
Request editor to submit maintenance request.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Clause 49 isn't open as part of P802.3ah. If a maintenance request is desired, the commenter is urged to submit it through the appropriate channels.

Cl **56** *SC* *P* **107** *L* **29** # **1270**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Misuse of uppercase letters.

SuggestedRemedy
Figure titles, headings, and table titles should only use uppercase for the first word in the line or for acronyms and abbreviations. Make changes throughout Clause 56.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1** *P* **106** *L* **12** # **1264**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Bad grammar.

SuggestedRemedy
In the last sentence of the first paragraph, remove both instances of 'the case of'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1** *P* **106** *L* **16** # **1265**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Figure 56-1 is an architectural drawing and therefore should look similar to Figure 44-1 and Figure 1-1.

SuggestedRemedy
Delete the words 'Replicate'. Remove all but the right most 'PHY' and its bracket. Extend the right most border of RECONCILIATION and above to include all the port types. Change the 'x Mb/s link segment' to list the corresponding port types. Insert text to differentiate the PCS (i.e. Cu PCS, 4B/5B PCS, 8B/10B PCS).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **56** *SC* **56.1** *P* **106** *L* **54** # **1267**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
The statement about using half duplex for 10PASS-T and 2BASE-T is a bit confusing.

SuggestedRemedy
Change to 3rd sentence in last paragraph to read:
To perform MAC-PCS rate matching for 10PASS-T and 2BASE-T PCS (Clause 61), the MAC is configured in half duplex mode to enable the use of carrier sense (CRS) to defer transmission by the MAC.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1** *P* **106** *L* **6** # **852**
Carlo, James J.Carlo Consulting sup

Comment Type **E** *Comment Status* **D**
add (P2P) after the phrase "point to point".This helps since the following sentence defines P2MP. Sentence rewrite below.

SuggestedRemedy
... for point to point (P2P) connections ...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1** *P* **106** *L* **6** # **1263**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Add '(P2P)' after 'point to point'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1** *P* **107** *L* **1** # **1266**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Figure 56-2 placement and diagram needs to changed.

SuggestedRemedy
Move figure so that it isn't in the middle of the paragraph.

Remove ONU and OLT brackets. Remove right most stack as it is the same as the left. Change PASSIVE OPTICAL NETWORK MEDIUM to be MEDIUM. Change left most border of medium to be open like the right side. List port types under the medium.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Clarifications will be made to the figure

Cl **56** *SC* **56.1** *P* **107** *L* **31** # **941**
Daines, Kevin World Wide Packets

Comment Type **T** *Comment Status* **D**
The wrong MAC operating mode is referenced.

SuggestedRemedy
Change "in the half duplex" to "in the simu half duplex".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.1** *P* **107** *L* **35** # **1269**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Document shows two separate figures for P2P and P2MP, but descriptions are merged.

SuggestedRemedy
Add new subclause 56.1.1 Summary of P2P sublayers. Add new subclause 56.1.2 Summary of P2MP sublayers. Change existing 56.1.1 to be 56.1.2.1, existing 56.1.2 to be 56.1.2.2, and existing 56.1.3 to be 56.1.2.3. Add new information to new 56.1.1 related to the explanation of the P2P clauses.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.3** *P* **107** *L* **49** # **1271**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
MII in title is incorrect as it refers to a specific interface, not the generic interface.

SuggestedRemedy
Change to read:
Reconciliation sublayer (RS) and media independent interface

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.3** *P* **107** *L* **52** # **1272**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Unnecessary wording.

SuggestedRemedy
Delete the following from the first sentence:
Layer entities, and between PHY Layer and Station Management (STA) entities.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.4** *P* **108** *L* **4** # **1274**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Break subclause into P2P and P2MP sections as per previous comment.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.4** *P* **108** *L* **4** # **942**
Daines, Kevin World Wide Packets

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

SuggestedRemedy
Change "Long" to "long" on lines 4 and 10 for consistency.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.4** *P* **108** *L* **4** # **1273**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Misuse of uppercase.

SuggestedRemedy
Although editor is trying to highlight what letter is being applied to the nomenclature for the port type, the letters should be in lowercase.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **56** *SC* **56.1.4** *P* **108** *L* **42** # **1121**
Behrooz Rezvani Ikanos Communication

Comment Type **TR** *Comment Status* **D** *span*
The test “Both of these PMDs use passband signaling, and support a nominal full duplex data rate of 10 Mb/s, hence the identifier 10PASS-TS. For the 10PASS-TS PHY, two subtypes are defined: 10PASS-TS-O and 10PASS-TS-R.” is not what was agreed in objective for 10PASS-TS

SuggestedRemedy
Change the word from nominal to minimum.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The wording was approved by the TF in the last meeting.

The wording will be changed to reflect consistancy with the other clauses and previous IEEE terminology.

Cl **56** *SC* **56.1.4** *P* **108** *L* **52** # **1275**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
First references to T1E1 and ITU-T require more information.

SuggestedRemedy
Update references to include the specification number.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Please provide the appropriate reference text

Cl **56** *SC* **56.1.4** *P* **109** *L* **35** # **1277**
Booth, Brad Intel

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

Provide a table that list port types and the clauses required to build those port types.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The information is already contained in the frontmatter of the document that calls out the discription of each clause.

In addition, when building a port type there are several options beyond the PMD that may be incorporated like OAM. Thus a table as proposed may prove to be confusing

Cl **56** *SC* **56.1.4** *P* **109** *L* **5** # **1276**
Booth, Brad Intel

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

Table requires some cleanup and correction of information.

SuggestedRemedy

Change Nominal Span (km) to be Span (m).

Use of duplex and simplex is reversed. Simplex means the support of communication in one direction. Duplex means the support of communication in both directions. Two fiber implementations are dual simplex. One fiber implementations are duplex.

What is voice grade copper cabling? Provide a reference or true classification for the cabling.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are a number of comments on the use of the span terminology. Nomenclature consistant within all the clauses will be used.

Copper cabling references should be provided within the copper clauses and annexes.

A clause reference to to the copper section will be added in C1

Cl **56** *SC* **56.4** *P* **110** *L* **14** # **1278**
Booth, Brad Intel

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

This seems pretty empty. Is there any relationship to ISO/IEC 11801? T1E1, ITU-T, ANSI?

SuggestedRemedy

Add necessary information as per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Specific references are contained within the subclauses. C56 is intended to introduce the document not provide the detailed information of the subclause.

If there is any specific information that the commenter would like to see he is encouraged to propse text changes

Cl **56** *SC* **Figure 56-2** *P* **107** *L* **9** # **940**
Daines, Kevin World Wide Packets

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

The MPCP sublayer contains a description that does match the acronym. MPCP is not the name of the sublayer, it is the name of the protocol within the sublayer.

SuggestedRemedy

Change "MPCP" to "MPMC" in the figure.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **56** *SC* **Table 56-1** *P* **109** *L* **8** # **875**
Tom Mathey Independent

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

Comment 563 from D1.3 was:

My impression of 100BASE-LX10 is that it is not specific to ONU/OLT applications, and in fact can not be used since ONU/OLT is restricted to 1000BASE applications, ie. 1 Gig. This probably applies to the first 4 phys listed in the table.

With the very nice reply of:

The text is intended to indicate that this phy is symmetric for both ends of the link. It is preferred to have some affirmative text indicating that rather than nothing. If the commenter would still like to change the text he is encouraged to think of a better shorthand to replace those cells with in the table

SuggestedRemedy

How about replacing text "ONU/OLT" with text "symmetric".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The word symmetric can be added as a footnote to the particular entries referenced in the table. However, the term ONU/OLT is still relevant for the other PMDs

Cl **57** *SC* *P* **112** *L* **01** # **1290**
Booth, Brad Intel

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

Recommend editor run spell checker on the clause.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57** *P* **111** *L* **13** # **943**
Daines, Kevin World Wide Packets

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

Definition of administration needs to be augmented.

SuggestedRemedy

Change "functions that sustain" to "functions that monitor and sustain".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57** *P* **111** *L* **22** # **944**
Daines, Kevin World Wide Packets

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

Add abbreviation.

SuggestedRemedy

Add:

OAMPDU: Operations, Administration and Maintenance Protocol Data Unit

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57** *P* **112** *L* **01** # **876**
Tom Mathey Independent

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

OAM appears to be mandatory for EFM phy's, but I can not find such a statement in Clause 57.

SuggestedRemedy

Add text that specifically calls out that OAM is mandatory for EFM phy's.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

OAM isn't mandatory - for EFM PHYs or any PHY.

Cl **57** *SC* **57.1** *P* **112** *L* **07** # **329**
Brown, Benjamin Independent

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

This section makes it very confusing between the general sense of the term OA&M and the term as it applies to EFM.

SuggestedRemedy

Add the words "In general," at the start of the second sentence.

Replace "OAM" at the start of the third sentence with "The OAM described in this clause"

Add another sentence at the end of this clause that reads: "For the remainder of this clause, the term OAM is specific to the link level OAM described here."

Also, in the first sentence, replace "sublayer which" with "sublayer, which"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.1** *P* **112** *L* **11** # **1280**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
First use of acronym.

SuggestedRemedy
At the end of the first sentence of the 2nd paragraph in 57.1.1, add '(OAMPDUs)'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Same as comment #294.

Cl **57** *SC* **57.1.1** *P* **112** *L* **11** # **294**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
OAMPDU not defined.

SuggestedRemedy
OAM Protocol Data Units (OAMPDU).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Note: Comment #944 adds the abbreviation OAMPDU to 1.5.

Cl **57** *SC* **57.1.1** *P* **112** *L* **11** # **1279**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Over use of IEEE 802.3.

SuggestedRemedy
In this subclause, delete first entry, replace second entry with 'OAM-enabled' and replace 3rd entry with this standard.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.1.2** *P* **112** *L* **26** # **1281**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Misuse of uppercase and need to keep table number together.

SuggestedRemedy
Change table reference in a) 2) to read '(see Table 57-7).' and keep the 57-7 on the same line.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Question to commenter: As for keeping Table 57-7 on the same line, is this a global hyphenation setting within Framemaker?

Cl **57** *SC* **57.1.2** *P* **112** *L* **29** # **157**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
In the unidirectional operation, the device is capable of sending OAMPDUs when the receive path is non-operational. However, the actual triggers of non-operational receive path are not clear.

SuggestedRemedy
It is necessary to make the actual triggers of non-operational receive path clear.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See response to #158.

Cl **57** *SC* **57.1.2** *P* **112** *L* **29** # **158**
Ken, Murakami Mitsubishi Electric

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

In the unidirectional operation, the device is capable of sending OAMPDUs when the receive path is non-operational. In case of point-to-multi-point, the OLT is in active mode and the ONU is in passive mode. If the receive path from the ONU to the OLT becomes non-operational, the OLT can send OAMPDUs. However, the Event Notification OAMPDU cannot be sent.

SuggestedRemedy

It is necessary to indicate the OAMPDUs that the OLT can send in the unidirectional operation.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

57.1.2 is a summary of major concepts. It is not necessary, this early in the clause, to specify this level of detail. The notes about OLT and ONU are sufficient here.

Cl **57** *SC* **57.1.2** *P* **112** *L* **39** # **1282**
Booth, Brad Intel

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

Change IEEE 802.3 to Clause 30.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.2** *P* **112** *L* **43** # **945**
Daines, Kevin World Wide Packets

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

Remove reference to "vendor".

SuggestedRemedy

Change "A vendor" to "An".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.3** *P* **112** *L* **49** # **1283**
Booth, Brad Intel

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

Change IEEE 802.3 to be 'this standard'.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.3** *P* **112** *L* **52** # **946**
Daines, Kevin World Wide Packets

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

Remove vendor reference.

SuggestedRemedy

Remove "vendor" to read "using the extension mechanism".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.3** *P* **113** *L* **02** # **1284**
Booth, Brad Intel

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

Change 'clause' to 'standard'.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.1.4** *P* **113** *L* **09** # **1285**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 2nd sentence and figure title.

SuggestedRemedy
Change sentence to read:
Figure 57-1 shows the relationship of the OAM sublayer to the ISO/IEC (IEEE) OSI reference model.

Change figure title to read:
OAM sublayer relationship to the ISO/IEC Open Systems Interconnection (OSI) reference model and the IEEE 802.3 CSMA/CD LAN model

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.1** *P* **114** *L* **25** # **1286**
Booth, Brad Intel

Comment Type **TR** *Comment Status* **D**
Naming conventions are extremely confusing and hard to correlate when reading the rest of the clause.

SuggestedRemedy
Change existing OAM:MADR and OAM:MADI to MCF:MADR and MCF:MADI. MCF = MAC Client Frame.

Change existing Mux:MADR and Parser:MADI to OAM:MADR and OAM:MADI. OAM relates to OAM Client path.

Change Parser:MADR to RLM:MADR. RLM = Remote Loopback Mode.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.1** *P* **114** *L* **46** # **1287**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'Physical Layer' to 'PHYSICAL LAYER'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.2** *P* **115** *L* **09** # **1288**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change IEEE 802.1 bridges to be the OAM client.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.2** *P* **115** *L* **12** # **1289**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change IEEE 802.3 to 'this standard'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.3** *P* **115** *L* **29** # **270**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Open reference.

SuggestedRemedy
Open reference "(See)". Can probably delete since the sub-clause was already referenced in the previous sentence.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The previous sentence references 57.2.7. The description of Event Notification OAMPDUs is found in 57.4.3.2.

Also, see comment #947, which modifies the referenced sentence in addition to fixing the faulty cross-reference.

Cl **57** *SC* **57.2.3** *P* **115** *L* **29** # **433**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Have "(See)."

SuggestedRemedy
Correct cross-reference.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #947, which also modified the sentence referenced.

Cl **57** *SC* **57.2.3** *P* **115** *L* **29** # **330**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
"(See)" should read "(See 57.4.3.2)"

SuggestedRemedy
change "(See)" to "(See 57.4.3.2)"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #947, which also modified the sentence referenced.

Cl **57** *SC* **57.2.3** *P* **115** *L* **29** # **947**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Awkward sentence.

SuggestedRemedy
Change "The OAM client handles this by sending Event Notification OAMPDUs (See)." to

"The OAM client transfers Events by sending and receiving Event Notification OAMPDUs (see CROSS REF 57.4.3.2)."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.3.2** *P* **128** *L* **23** # **337**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
OAMPDU transmission shall be as shown in Figure 57-5 doesn't follow the way you write the same line in other sections.

SuggestedRemedy
For consistency with other Figures please consider using
"OAMPDU transmission shall follow the implementation of the function specified by the state diagram shown in Figure 57-5"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.4** *P* **115** *L* **50** # **1291**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Update as per related comment to name changes in Figure 57-2.

SuggestedRemedy
Change bullets to read:
a) OAM; for primitives issued on the interface between the Control and the Parser or Multiplexer.
b) MCF; for primitives issued on the interface between the OAM sublayer and the MAC client.
c) RLM; for primitives issued on the loopback interface between the Parser and the Multiplexer.
d) MAC; for primitives issued on the interface between the underlying sublayer (e.g. MAC sublayer) and the OAM sublayer.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.5.2.1** *P* **116** *L* **19** # **704**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D**
OAMPDU.request is for between OAM client and OAM sublayer entity.

SuggestedRemedy
Change it to
"This primitive defines the transfer of data from an OAM client to an OAM sublayer entity"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

OAM_CTL.request defines the transfer of control information from an OAM client entity to an OAM sublayer entity.

OAMPDU.request, on the other hand, defines transfer of data between two OAM client entities, the local and the peer.

Cl **57** *SC* **57.2.5.4.2** *P* **117** *L* **34** # **877**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
The parameters in the service primitive come from some place.

SuggestedRemedy
Add a table which maps the service primitives to state variables or to the corresponding MMD bits from/to clause 45.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

At the OAM sublayer, pervasive access to management is assumed.

Cl **57** *SC* **57.2.5.4.2** *P* **118** *L* **09** # **434**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Replace "critical event" with "unspecified critical event".

SuggestedRemedy
self explanatory

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.5.5.3** *P* **119** *L* **04** # **435**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
I think we call the OAM_CTL.indication if the flags or state information changes.

SuggestedRemedy
Replace section with

The OAM_CTL.indication is passed from the OAM sublayer entity to the OAM client entity to indicate one of the following occurrences: (a) the local state information has changed, (b) the value of the flags field in the the most recent validly formed, error-free OAM PDU has changed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.5.5.3** *P* **119** *L* **05** # **1292**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Bad grammar.

SuggestedRemedy
Change to read:
... arrival of a valid, error-free OAMPDU.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.6** *P* **119** *L* **13** # **159**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The OLT's mode and the ONU's mode are not indicated.

SuggestedRemedy
It is better to indicate clearly that the OLT's mode is active and the ONU's mode is passive.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

While the OAM sublayer is part of the EFM project, ideally we shouldn't have media/PHY specific information enumerated within the clause. If we add OLT/ONU specific information, then we'd need to add Copper specific information, etc.

Perhaps a better location for information such as this would be in Clause 66 - System considerations.

Cl **57** *SC* **57.2.6** *P* **119** *L* **26** # **436**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
On one of our conference calls, we came to the consensus that event notification should be allowed from Active to Passive.

SuggestedRemedy
Remove the conditional note on Active-Passive event notifications.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.6** *P* **119** *L* **26** # **271**
Martin, David Nortel Networks

Comment Type **T** *Comment Status* **D**
An Active device should be permitted to send EN OAMPDUs to a Passive device.

SuggestedRemedy
Delete the reference to footnote "a" in Table 57-1 entry column 2, row 4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #436.

Cl **57** *SC* **57.2.6** *P* **119** *L* **33** # **332**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
Vendor Specific OAMPDUs is not what we're calling them

SuggestedRemedy
change to "Organization Specific OAMPDUs"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.6** *P* **119** *L* **35** # **293**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
Missing a full-stop at the end of sentence, also at the end of many of the comments in most of the tables.

SuggestedRemedy
"Active device."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Editor proposes changing the footnote to read: "Requires the peer device to be in Active mode."

Cl **57** *SC* **57.2.6.1** *P* **119** *L* **41** # **333**
Braga, Aldobino UNH-IOL

Comment Type **T** *Comment Status* **D**
Once the Discovery process completes, active OAM devices are permitted to send any OAMPDU.

This isn't accurate.

SuggestedRemedy
Once the Discovery process completes, active OAM devices are permitted to send any OAMPDU while connected to a remote OAM peer entity in active mode. Active mode OAM devices operate in a limited respect if the remote OAM entity is operating in passive mode. See Table 57-1

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.6.1** *P* **119** *L* **41** # **1293**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'See' to 'see'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.6.1** *P* **119** *L* **42** # **437**
Squire, Matt — Hatteras Networks

Comment Type **E** *Comment Status* **D**
Add descriptive sentence to indicate passive entities should not respond to variable requests and loopback commands with passive peers.

SuggestedRemedy
Add sentence at end: Active devices should not respond to loopback commands and variable requests from a passive peer.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.1** *P* **120** *L* **11** # **160**
Ken, Murakami — Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The difference between the Link Fault and the Dying Gasp is not clear.

SuggestedRemedy
It is better to make the defference between them more clear.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The OAM STF has struggled with this in the past. Dying Gasp is thought to cover things like hard/soft resets, loss of power, etc. Since these items are not directly related to the operation of the link, they are not enumerated here.

Cl **57** *SC* **57.2.7.1** *P* **120** *L* **11** # **1294**
Booth, Brad — Intel

Comment Type **E** *Comment Status* **D**
Remove (e.g. link, Physical layer) from the first row of Table 57-2.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.1** *P* **120** *L* **16** # **370**
Nitosa, koji — NEC

Comment Type **E** *Comment Status* **D**
"undefined" in Description about Critical event in Table 57-2 should be removed like a description in Table 57-3.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #438, where "undefined" is being changed to "unspecified".

Does the commentor want the note in Table 57-3 to be included in Table 57-2 as well?

Cl **57** *SC* **57.2.7.1** *P* **120** *L* **16** # **339**
Braga, Aldobino — UNH-IOL

Comment Type **E** *Comment Status* **D**
"Occurred" should be "occurred"

SuggestedRemedy
change "occurred" to "occurred"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The misspelled word "occured will be changed to "occurred".

Cl **57** *SC* **57.2.7.1** *P* **120** *L* **16** # **438**
Squire, Matt — Hatteras Networks

Comment Type **E** *Comment Status* **D**
Change "undefined" to "unspecified".

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.2** *P* **120** *L* **22** # **367**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event was renamed to Errored Frame Event.

SuggestedRemedy
Change Errored Frame Seconds on line 38 to Errored Frame.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.3** *P* **120** *L* **31** # **1295**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Floating '(See)' and second use of See should be all lowercase.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.3** *P* **120** *L* **31** # **331**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
"(See)" should read "(See 57.4.3.2)"

SuggestedRemedy
change "(See)" to "(See 57.4.3.2)"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cross-reference will be added and "See" will be changed to "see" per comment #1295.

Cl **57** *SC* **57.2.7.3** *P* **120** *L* **31** # **439**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Screwy reference with "(See)".

SuggestedRemedy
Fill in reference.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #947, which also modified the sentence referenced.

Cl **57** *SC* **57.2.7.3** *P* **120** *L* **31** # **272**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Open reference.

SuggestedRemedy
Open reference "(See)". Could reference sub-clause 57.4.3.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #1295, #331.

Cl **57** *SC* **57.2.7.3** *P* **120** *L* **31** # **948**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Missing reference.

SuggestedRemedy
Change "See " to "See 57.4.3.2"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #331, 1295.

Cl **57** *SC* **57.2.7.4** *P* **120** *L* **43** # **1296**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Use of the word 'primitive' twice without the preceeding 'service'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.7.4** *P* **120** *L* **47** # **949**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Plural.

SuggestedRemedy
Change "OAMDPUs" to read "OAMPDU".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8** *P* **120** *L* **54** # **1297**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Last sentence on the page that starts 'In addition...' is not required as it is implied that is what loopback is viable for.

SuggestedRemedy
Choice is to either recommend that, or delete the sentence. Preference is to delete sentence.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Editor disagrees with the first suggested remedy for the following reason: The Parser block discards loopbacked frames preventing higher level entities (i.e. MAC client, OAM client) from inspecting them.

Editor disagrees with the second suggested remedy for the following reason: Many individuals indicated a desire to have some language in the clause indicating inspection of loopback frames is permitted - though unspecified.

See comment #166 for an example of a commentor who desires the ability to inspect loopback frames.

Loopback frames are not sent to the MAC client so as to prevent higher-level protocols (802.1 protocols) from breaking.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **26** # **950**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Change OAM remote loopback subclause titles.

SuggestedRemedy
Add "remote" to the following subclause titles: 57.2.8.1 through 57.2.8.6

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **32** # **958**
Daines, Kevin World Wide Packets

Comment Type **T** *Comment Status* **D**
Remote client needs to change the setting of the local_mux_action to DISCARD when it receives the Enable Loopback Command.

SuggestedRemedy
Change "LB via" to read LB and its local_mux_action parameter to DISCARD via".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

In addition to suggested remedy, the definition of local_mux_action should be augmented as follows:

Change 2nd sentence of definition within 57.3.1.2 to read:
"This governs the flow of frames from the MAC client within the Multiplexer function."

Change FWD line to: "Multiplexer passes MAC client frames to subordinate sublayer."

Change DISCARD line to: "Multiplexer discards MAC client frames."

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **32** # **161**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The setting of the local_mux_action parameter in the remote device is not mentioned.

SuggestedRemedy
The local_mux_action parameter should be set to DISCARD.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment #958.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **33** # **273**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Extra word.

SuggestedRemedy
Change "reflecting the its local_par_action" to "reflecting its local_par_action"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **34** # **334**

Braga, Aldobino UNH-IOL

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

remove the extra "the"

SuggestedRemedy

with updated state information reflecting its local_par_action set to LB

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment #273.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **35** # **440**

Squire, Matt Hatteras Networks

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

There was some confusion on one of the conference calls about the use and wording of the simultaneous loopback paragraph. In particular,
- what is simultaneous loopback
- how to specify detection and reaction (given that its a OAM client function)
This attempts to address those issues

SuggestedRemedy

Replace paragraph with:
In the event that an OAM client has sent an OAM command and is waiting for the peer device to respond with an Information OAMPDU that indicates it is in loopoback mode, and that OAM client receives a loopback command from the peer device, the following procedures are RECOMMENDED:
a) If the local device has a higher source_address than the peer, it should enter loopback mode at the command of its peer
b) If the local device has a lower source_address than the peer, it should ignore the loopback command from its peer and assume continue as if it were never received
If OAM clients do not follow these guidelines, it may be possible for two OAM clients to issue simultaneous loopback commands with indeterminate results.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The word "assume" will be removed from remedy.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **36** # **1298**

Booth, Brad Intel

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

There is no conformance requirement in the event of two active devices.

SuggestedRemedy

Add a 'shall' to the first sentence to read:
... lower source_address shall ignore the...

Add a 'shall' to the last sentence to read:
... higher source_address shall act upon...

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment #440 for new text for this section. Also, the behavior of the OAM client is not specified, only recommended, and therefore can not be included in the PICS.

Cl **57** *SC* **57.2.8.1** *P* **121** *L* **40** # **420**

Eun Jee-Sook ETRI (Electronics and

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

It would be better to add timing diagram of the OAM loopback initialization and expiration process to help easy understanding.
Initialization process is can be described more clearly.

SuggestedRemedy

The timing diagrams of Initialization and expiration process are included in attached file.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8.2** *P* **121** *L* **45** # **166**
Ken, Murakami Mitsubishi Electric

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

In the loopback operation, the insertion point and the drop point are different. The insertion point is the MAC client. The drop point is the OAM sublayer. In this case, the continuity check cannot be confirmed.

SuggestedRemedy

The drop point should be same as the insertion point, i.e., MAC Client.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See response to comment #1297.

The OAM STF has discussed this many times and always arrived at the same decision for where things get looped and where they get dropped.

Cl **57** *SC* **57.2.8.3** *P* **122** *L* **06** # **335**
Braga, Aldobino UNH-IOL

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

The remote OAM client first sends an Information OAMPDU with updated state information then sets the state information

The order doesn't seem correct. The device would receive the OAMPDU then change its state information...then use that state information to create the response OAMPDU.

SuggestedRemedy

Should read, "After receiving a Loopback Control OAMPDU with the Disable Remote Loopback command, the remote OAM client first sets its local_par_action parameter to FWD via the OAM_CTL.request primitive, and then sends an Information OAMPDU with updated state information."

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The reason for the ordering is so the local device is notified the remote device is changing BEFORE the possibility that a MAC client frame is received at the local device.

Consider the case where the remote device changes the *action variables, and a MAC client frame is sent prior to the Information OAMPDU being sent. By sending the Information OAMPDU first, and then changing the *action parameters, the local device is notified of the change prior to receiving any non-OAMPDUs.

Cl **57** *SC* **57.2.8.3** *P* **122** *L* **07** # **959**
Daines, Kevin World Wide Packets

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

Remote client needs to change the setting of the local_mux_action to FWD when it receives the Disable Loopback Command.

SuggestedRemedy

Change "FWD and then sets the local_par_action parameter to FWD via" to read "FWD and the local_mux_action parameter set to FWD and then sets the local_par_action parameter to FWD and the local_mux_action parameter to FWD via".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8.3** *P* **122** *L* **10** # **960**
Daines, Kevin World Wide Packets

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

Add word for clarification.

SuggestedRemedy

Add "remote" to read "The remote Parser resumes passing".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.2.8.6** *P* **122** *L* **52** # **274**
Martin, David Nortel Networks

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

Text swap.

SuggestedRemedy

Swap the text from bullet "c" with the text from bullet "d", since that would be the more logical sequence of events.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment #335.

Cl **57** *SC* **57.2.8.6** *P* **122** *L* **52** # **336**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
C) and D) don't appear to be in correct order...
(I know I'm being picky. :))

SuggestedRemedy
Make d) -> c) and c) -> d) to reflect correct order. Receive ->Set->Reply

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See comment #335.

Cl **57** *SC* **57.3.1.2** *P* **123** *L* **29** # **1299**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Change wording of 'initialized or reinitialized' and '(re-)initialization' to be 'reset'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.2** *P* **124** *L* **06** # **951**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Indentation.

SuggestedRemedy
Indentation is inconsistent within this subclause. See page 124, lines 6-7, 24, 42-43, 49-50; page 125 lines 1-4, 9-10, 21-22, 28-31, 36-37.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.2** *P* **124** *L* **21** # **441**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Incorrect reference - the Muliplexer is 57.3.3.

SuggestedRemedy
Change reference to 53.3.4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.2** *P* **124** *L* **23** # **1300**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Use of cross-references withing sentences.

SuggestedRemedy
(See... is often used when (see... should be used.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.2** *P* **125** *L* **01** # **1301**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Values are too close to variable name.

SuggestedRemedy
Change UNSTABLE to FALSE and STABLE to TRUE. Incorporate changes to local_stable and remote_stable throughout this clause.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.2** *P* **125** *L* **09** # **1302**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change (re-)initialization to reset and add space between 100 and ms.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.5** *P* **126** *L* **32** # **371**

Nitosa, koji NEC

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

The regulation about processing of "local_lost_link_timer" is not clear. The timer start in "CHECK_MODE" of Figure 57-4, the timer restart in "RX_OAMPDU" of Figure 57-7, etc. need to be specified.

SuggestedRemedy

Add the definition of "local_lost_link_timer"processing.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

It appears the confusion exists because a) lost_link_timer is include in the list of timers in 57.3.1.5 and b) local_lost_link_timer_done is a parameter of the OAM_CTL.request service primitive from the OAM client. Since the OAM client contains the lost_link_timer, the following edits should be made:

1) Remove lost_link_timer from 57.3.1.5
2) Amend the receive rule (c) in 57.3.3.1 as follows:
The local_lost_link_timer, within the OAM client, is reset upon reception of any OAMPDU.

This should clear up the confusion.

Cl **57** *SC* **57.3.1.5** *P* **126** *L* **34** # **1303**

Booth, Brad Intel

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

Timer tolerances of +0 s, -0 s doesn't permit variances in clocks between two communicating devices.

SuggestedRemedy

Change tolerance to be +0.0 s, -0.5 s for 5 second timer and +0.0 s, -0.1 s for 1 second timer.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.1.5** *P* **126** *L* **34** # **91**

Takashi, Ezawa OF Networks

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

We think that the description of timer tolerance as "+0 s, -0 s" isn't suitable regarding local_lost_link_timer and pdu_timer, because there is no acceptable tolerance between "+0" and "-0". We propose that the description of tolerance shall be deleted. We think that there is no problem without definition of detailed tolerance. These timers are used for detection of link fault, but there is enough margin between pdu_timer and lost_link_timer.

SuggestedRemedy

local_lost_link_timer
Timer used to reset the Discovery process.
Duration: 5 s.
pdu_timer
Timer used to ensure OAM sublayer adheres to maximum number of OAMPDUs per second and emits at least one OAMPDU per second.
Duration: 1 s.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #1303.

Cl **57** *SC* **57.3.1.5** *P* **126** *L* **38** # **952**

Daines, Kevin World Wide Packets

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

Indentation.

SuggestedRemedy

Fix indentation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.1** *P* **126** *L* **48** # **705**

Chan Kim ETRI

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

It is safe to send OAMPDUs repeatedly for the discovery work in frame loss case. But it is not clearly shown whether OAMPDUs are repeatedly sent in each state, and if they are repeatedly sent, in what frequency they are sent.

SuggestedRemedy

Add text "In each state, the OAM sublayer entities send specified OAMPDUs in a periodic fashion, normally once in a second."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.1** *P* **126** *L* **54** # **418**

Eun Jee-Sook ETRI (Electronics and

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

It would be better to modify the state diagram of figure 57-4.
If an active object follows the original state diagram, it will experience three times of the information OAMPDU transmission even at the sequential, successful negotiation process.
But, ACTIVE_SEND_LOCAL state can include SEND_LOCAL_REMOTE_1's state information (local_tx<=INFO & local_stable<=UNSTABLE).
Therefore the arrow of ACTIVE_SEND_LOCAL state make point to SEND_LOCAL_REMOTE_2 state.
Because 'local_satisfied = TRUE' is not event of receiving information OAMPDU but only local device's set-done indication. So, Active device can send Information OAMPDU only two times.

SuggestedRemedy

Please add following paragraph after line 54 of page 126.
Once the local device has received an Information OAMPDU from the remote device and management deems the settings on both local and remote devices are acceptable, it enters the SEND_LOCAL_REMOTE_2.
The modified version of figure 57-4 is included in the attached file.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Per eun_oam_1_0503.pdf, the suggestion to add "local_tx <= INFO" to SEND_LOCAL_REMOTE_2 will be adopted. This is also suggested in #1304.

The balance of the suggested remedy can not be adopted. The first Information OAMPDU (ACTIVE_SEND_LOCAL state) sent by an Active device will kick start the Discovery process. It will only contain the Local Information TLV (local_stable=UNSTABLE).

The second Information OAMPDU (SEND_LOCAL_REMOTE_1 state) sent by an Active device will communicate to the remote device that it has received remote device information. This Information OAMPDU will contain both the Local and Remote Information TLVs (local_stable=UNSTABLE).

The third Information OAMPDU (SEND_LOCAL_REMOTE_2 state) sent by an Active device will communicate to the remote device that it is satisfied with the local and remote configuration via local_stable=STABLE. This Information OAMPDU will contain both the Local and Remote Information TLVs.

In short, the Active device needs to:
1) start Discovery
2) acknowledge receipt of remote information

3) signal satisfied to remote device

It looks like three steps (three Information OAMPDUs) are required.

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **16** # **162**

Ken, Murakami Mitsubishi Electric

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

The condition that the local_satisfied becomes TRUE is not clear.

SuggestedRemedy

It is better to make this condition clear.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The definition of local_satisfied is included in 57.3.1.2. It is not possible or practical to include every factor in determining whether or not an OAM client sets local_satisfied. Hence, the definition is left sufficiently fuzzy.

A given device may decide it doesn't like a) the maximum OAMPDU length of the remote device , b) the mode (Active/Passive) of the remote device, c) the loopback support etc, etc.

As OAM is not required for link operation, if it can be established it will be considered advantageous for most, if not all, 802.3 links.

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **19** # **1304**

Booth, Brad Intel

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

State machine needs to transition back to local_tx <= INFO upon entry to SEND_LOCAL_REMOTE_2 from SEND_ANY.

SuggestedRemedy

Add 'local_tx <= INFO' to SEND_LOCAL_REMOTE_2 state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **26** # **384**

Hirai, Hideyuki Sumitomo Electric

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

Figure57-4:
Conditions for the transition from SEND_LOCAL_REMOTE_2 state to SEND_ANY state are insufficient. There is a possibility that the Local or Remote become deadlocked in SEND_LOCAL_REMOTE_2 state.

According to the Figure57-5 and Figure57-6, if any OAMPDU is transmitted by the time the pdu_timer expires, a device does not enter SEND_INFORMATION state even if the pdu_timer expires. So the device in SEND_ANY state is able to go on transmitting any OAMPDUs without transmitting InformationOAMPDU.
There is a possibility of the following:
(1) Assume that the Local device and the Remote device are in SEND_LOCAL_REMOTE_2 state and they have never transmitted InformationOAMPDUs since they had entered SEND_LOCAL_REMOTE_2 state.
(2) And assume that the Remote sends an InformationOAMPDU for the Local device before the Local transmits an InformationOAMPDU
(3) At the Local device, the Local receives this InformationOAMPDU from the Remote, and knows that the Remote is in STABLE. But the Local does not enter SEND_ANY state yet, because the Local has never sent an InformationOAMPDU. (See p127 Line38-39)
(4) The Local device enters SEND_ANY state immediately after it transmits an InformationOAMPDU. But the Remote may not receive this InformationOAMPDU because of an error in the EPON line. If this InformationOAMPDU does not reach the Remote, then the Remote is not able to enter SEND_ANY state. But the Local in the SEND_ANY state is able to start to send VariableRequestOAMPDUs even if the Remote is not in SEND_ANY. At this time, the Remote in SEND_LOCAL_REMOTE_2 state can not respond to this VariableRequestOAMPDU, but the lost_link_timer of the Remote is reset by VariableRequestOAMPDUs received. (See p130 Line25). Therefore if the Local goes on transmitting VariableRequestOAMPDUs, the Remote can not enter SEND_ANY state and can not retry Discovery process. And by receiving InformationOAMPDUs from the Remote, the Local concludes that the Remote is in STABLE state, so the Local may go on transmitting VariableRequestOAMPDUs.

SuggestedRemedy

To solve this problem, a new condition should be added to the current condition for the transition from SEND_LOCAL_REMOTE_2 state to SEND_ANY state.

The condition defined in the current draft:
remote_stable = STABLE

Proposed new condition:
(remote_stable = STABLE) + (receive OAMPDUs except for InformationOAMPDU)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Figure 57-4 seems to leave some confusion over when Information OAMPDUs are transmitted. A remedy would be to include the following: "OAM:MADR" in the appropriate states.

In ACTIVE_SEND_LOCAL, the text would be:
"local_tx <= INFO
Generate OAM:MADR"

In SEND_LOCAL_REMOTE_1, the text would be:
"local_tx <= INFO
local_stable <= UNSTABLE
Generate OAM:MADR"

In SEND_LOCAL_REMOTE_2, the text would be:
"local_tx <= INFO
local_stable <= STABLE
Generate OAM:MADR"

If the above changes were made, ambuiguity about the transmission of Information OAMPDUs would be removed.

- - -

As to the commentor's issue about the potential for getting stuck in SEND_LOCAL_REMOTE_2 - if an Information OAMPDU is dropped due to a link error, one device could proceed to SEND_ANY, while the other could be left in SEND_LOCAL_REMOTE_2. The suggested remedy could be adopted as follows:

"remote_stable=STABLE + RxOAMPDU"

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **39** # **953**

Daines, Kevin World Wide Packets

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

Capitalization, clarification needed.

SuggestedRemedy

Change "local and remote Information TLVs" to read "Local and Remote Information TLVs".

At the end of the paragraph (line 42), change "to send any OAMPDU." to "to send any OAMPDU, allowed by the configured."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **40** # **419**

Eun Jee-Sook ETRI (Electronics and

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

It would be better insert local_tx=INFO to SEND_LOCAL_REMOTE_2 state and edit paragraphs. They can be described more clearly.
SEND_LOCAL_REMOTE_2 is a state that sends an Information OAMPDU and waits for Information OAMPDU that contains remote_stable=STABLE from the remote device.

SuggestedRemedy

Please edit line 40 of page 127
before: Finally, once the remote device indicates that its management is satisfied with the respective settings,

after: Finally, once the local device has recieved an Information OAMPDU from the remote device and the remote device's management is satisfied with the respective settings,
The modified version of figure 57-4 is included in the attached file.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #1058 and #384.

Note: "local_tx <= INFO" doesn't transmit an Information OAMPDU. See response to #384 for a remedy for this confusion.

Cl **57** *SC* **57.3.2.1** *P* **127** *L* **53** # **1305**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
The action of disabling and re-enabling is equivalent to disabling. Disabling holds the state machine in CHECK_MODE state and doesn't premit it to exit.

SuggestedRemedy
Change sentence to read:
If OAM is reset, disabled, the local_lost_link_timer expires...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.2** *P* **128** *L* **04** # **295**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
Poor grammar.

SuggestedRemedy
Change 'effect' to 'affect'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.2** *P* **128** *L* **11** # **1306**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Put all the shalls in the rules.

SuggestedRemedy
Change 2nd sentence of bullet d) to read:
Transmission shall be governed by the...

Remove first sentence of 57.3.2.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.2** *P* **128** *L* **17** # **1307**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Add shalls to rules.

SuggestedRemedy
Change last sentence of bullet e) 1) to read:
This Information OAMPDU with critical events set in the flags field shall be sent...

And in bullet e) 2) to read:
...an Information OAMPDU shall be sent every second…

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **25** # **1308**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure in middle of paragraph.

SuggestedRemedy
Change anchor point or frame properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **29** # **373**
Nitosa, koji NEC

Comment Type **E** *Comment Status* **D**
The started timing of pdu_timer is not clear.

SuggestedRemedy
Add the process of [start pdu_timer] in RESET state of Figure 57-5.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

"pdu_timer <= 1 s" will be changed to "Start pdu_timer"

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **31** # **442**

Squire, Matt — Hatteras Networks

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

The reference to 10 in the state diagram is incorrect - the number can be different than 10.

SuggestedRemedy

Change 10 to a variable max_oam_pdus_second, and add this variable to the 5.3.1.2, with a value equal to the minimum of the configured value of the max OAMPDU rate and the received OAMPDU rate from the peer.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

D1.1 was the last draft that included exchanging OAMPDU rates between two devices. Currently, only the maximum OAMPDU size is exchanged.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **45** # **1309**

Booth, Brad — Intel

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

Incorrect statement relative to state machine, as local_tx = NONE is a forced transition to RESET state.

SuggestedRemedy

Change 1st sentence of 2nd paragraph to read:
Once the discovery process sets the local_tx variable to NONE, the RESET state is entered.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See response to comment #372.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **45** # **372**

Nitosa, koji — NEC

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

Figure 57-5 is different from the sentence (line 45).

SuggestedRemedy

Add the state of judging "local_tx=ANY or INFO" before RESET state. And the sentence should be revised according to the revised figure.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

While local_tx=NONE, the state diagram will continuously enter the RESET state effectively being held in RESET. Once local_tx is set to ANY or INFO, the state diagram will be allowed to exit the RESET state.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **49** # **1310**

Booth, Brad — Intel

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

Typo.

SuggestedRemedy

Change 'this' to 'thus'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment #275.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **49** # **275**

Martin, David — Nortel Networks

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

Typo.

SuggestedRemedy

Change "from expiring this keeping" to "from expiring thus keeping"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **128** *L* **52** # **1311**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Disjointed sentence.

SuggestedRemedy
Change last paragraph to read:
If the pdu_timer expires and the pdu_cnt is a value other than ten, indicating at least one OAMPDU has been transmitted within the last second, then the state machine transitions to the RESET state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **129** *L* **43** # **955**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Grammar.

SuggestedRemedy
Change "is evaluated" to "are evaluated".

Also, change "is evaluated" to "are evaluated" on line 3 on page 130.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **129** *L* **51** # **956**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Multiple lettered lists starting at "a)" within same subclause.

SuggestedRemedy
Change 2nd "a) b) c)" to "d) e) f)" and 3rd set to "g) h) i) j)".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.2.3** *P* **130** *L* **11** # **957**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove extra character.

SuggestedRemedy
Remove ")" to read "been reached."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #277.

Cl **57** *SC* **57.3.3** *P* **129** *L* **05** # **1313**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Typo.

SuggestedRemedy
Sentence 'The After reset,...' should be 'After reset,...'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #276.

Cl **57** *SC* **57.3.3** *P* **129** *L* **05** # **1312**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Incorrect reference.

SuggestedRemedy
Figure 57-5 should be 57-6.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **129** *L* **05** # **276**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Extra word.

SuggestedRemedy
Change "The After reset" to "After reset"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **129** *L* **05** # **338**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
"The After reset"

SuggestedRemedy
Should be "After reset"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #276.

Cl **57** *SC* **57.3.3** *P* **129** *L* **05** # **954**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Extra word.

SuggestedRemedy
Remove "The" to read "After reset, the Multiplexer"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #276.

Cl **57** *SC* **57.3.3** *P* **129** *L* **07** # **1315**
Booth, Brad Intel

Comment Type **TR** *Comment Status* **D**
State machine is ugly. :-) But seriously, some of the transitions are incorrect because the transitions can only occur due to a MADR.

SuggestedRemedy
Make WAIT_FOR_TX block narrower.

Change middle transition to be the following:
(!Mux:MADR + pdu_cnt=0) * ((OAM:MADR * local_mux_action=FWD * local_par_action=FWD) + Parser:MADR)
as there is no shall statement found that dictates that local_par_action=LB causes local_mux_action to be DISCARD. Also, Parser:MADR can only be generated if local_par_action=LB; therefore, the check of local_par_action=LB is redundant.

The right hand transition is convoluted. As mentioned Parser:MADR doesn't exist without local_par_action=LB. Change transition to read:
(Mux:MADR * !OAM:MADR * pdu_cnt=0) + (OAM:MADR * (local_mux_action!=FWD + local_par_action=LB))

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Well, however 'ugly' it may be now, it has improved dramatically, thanks in no small part to Al Braga. :-p

WAIT_FOR_TX can be made narrower if the three exits are shifted and the associated exit conditions are placed on the right-hand side of the exit rather than the left. The Editor accepts this suggestion.

Transitions from WAIT_FOR_TX can only be due to an MADR.

As far as the suggested changes, the Editor offers these amendments:

The middle transition can be changed to (post-comment #1286):

"(!OAM:MADR + pdu_cnt=0) *
((MCF:MADR * local_mux_action=FWD) + RLM:MADR)"

The right-hand transition can be changed to (post-comment #1286):

"(!OAM:MADR + pdu_cnt=0) + (MCF:MADR * (local_mux_action!=FWD))"

Cl **57** *SC* **57.3.3** *P* **129** *L* **07** # **1314**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure is in the middle of the paragraph.

SuggestedRemedy
Change anchor point or frame properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **129** *L* **20** # **375**
Nitosa, koji NEC

Comment Type **E** *Comment Status* **D**
When data_frame is transmitted, it is not necessary to perform pdu_cnt<=pdu_cnt -1 within Tx_FRAME. When OAMPDU is transmitted, it is necessary to perform pdu_cnt<=pdu_cnt -1 within Tx_FRAME.

SuggestedRemedy
Correct the Figure 57-6 according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The decrement "pdu_cnt <= pdu_cnt - 1" will be changed to:

"IF (MCF:MADR)
THEN pdu_cnt <= pdu_cnt - 1"

Note: alias is changed per comment #1286.

Cl **57** *SC* **57.3.3** *P* **129** *L* **23** # **374**
Nitosa, koji NEC

Comment Type **E** *Comment Status* **D**
"Unidirectional" are the conditions at the time of OAMPDU transmission. The contribution to Draft1.3 was taken up by #454,545,987, and this case was accepted in #545. "unidirectional" is used in OAMPDU transmission, not data transmission. Figure 57-6 is different from the accepted state diagram.

SuggestedRemedy
Figure 57-6 should be corrected like comment #545."unidirectional" should be used in OAMPDU transmission, not data transmission.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Please refer to 57.3.3, page 129, lines 41-47 for a detailed and thorough explanation of local_unidirectional's in the state diagram.

Cl **57** *SC* **57.3.3** *P* **129** *L* **32** # **92**
Takashi, Ezawa OF Networks

Comment Type **T** *Comment Status* **D**
In the Draft 1.414 the Multiplexer shall discard the occurred OAMPDU when the pdu_cnt counter is zero. We are concerned that the OAMPDU with new critical events may be discarded by multiplexer. If it is discarded at the Multiplexer, the critical notice will be delayed until next Information OAMPDU.
We suggest that the Control block should control the number of OAMPDU instead of multiplexer. If OAM_CTL.request primitive with the critical events occurs and the pdu_cnt counter is zero, the Control block should wait sending Information OAMPDU until the pdu_cnt counter resetting.

SuggestedRemedy
We suggest that the Control block should control the number of OAMPDU instead of multiplexer. If OAM_CTL.request primitive with the critical events occurs and the pdu_cnt counter is zero, the Control block should wait sending Information OAMPDU until the pdu_cnt counter resetting.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Please refer to 57.3.2.2 (e) (1). Critical events are not governed by the OAMPDU Transmit state diagram.

Cl **57** *SC* **57.3.3** *P* **129** *L* **35** # **1316**

Booth, Brad Intel

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

Change wording.

SuggestedRemedy

Change 'Frames from the MAC Client...' to 'MAC client frames...'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **129** *L* **36** # **1317**

Booth, Brad Intel

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

Update list to reflect the state machine.

SuggestedRemedy

Change list to read:

a) The OAM:MADR primitive occurs while no Mux:MADR primitive is detected or the maximum number of OAMPDUs tranmitted per second has been reached,

b) The local_mux_action parameter is set to FWD and the local_par_action is set to FWD indicating neither the remote nor the local device is in remote loopback mode,

c) The local_unidirectional parameter is FALSE or the local_link_status parameter is OK. Since OAMPDUs are sent on a unidirectional link, the status of the link is evaluated to ensure the same behavior as devices that do not support the optional OAM unidirectional capability. When the local_link_status parameter is OK, the MAC client frame will be transmitted regardless of the OAM unidirectional capability or setting.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remedy will be adopted with the following modifications:

Change "OAM" to "MCF".
Change "Mux" to "OAM".

Cl **57** *SC* **57.3.3** *P* **129** *L* **51** # **1318**

Booth, Brad Intel

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

Update list as per changes to state machine.

SuggestedRemedy

Change list to read:

a) The Parser:MADR primitive occurs while no Mux:MADR primitive is detected or the maximum number of OAMPDUs transmitted per second has been reached,

b) The local_unidirectional parameter is FALSE or the local_link_status parameter is OK. Since OAMPDUs are sent on a unidirectional link, the status of the link is evaluated to ensure the same behavior as devices that do not support the optional OAM unidirectional capability. When the local_link_status parameter is OK, the MAC client frame will be transmitted regardless of the OAM unidirectional capability or setting.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remedy will be adopted with the following modifications:

Change "Parser" to "RLM".
Change "Mux" to "OAM".

Cl **57** *SC* **57.3.3** *P* **130** *L* **10** # **1319**

Booth, Brad Intel

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

Update list to reflect state machine changes.

SuggestedRemedy

Change to read:

a) An OAMPDU is requested by the maximum number of OAMPDUs transmitted per second has been reached,

b) A MAC client frame is requested but the local device is in remote loopback mode as indicated by the local_mux_action set to DISCARD or the local_par_action is set to LB

c) A non-OAMPDU is requested but the receive link has not been established and the OAM unidirectional mode is enabled.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **130** *L* **11** # **296**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
Unnecessary extra bracket.

SuggestedRemedy
"been reached."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #277.

Cl **57** *SC* **57.3.3** *P* **130** *L* **11** # **277**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Extra closing bracket.

SuggestedRemedy
Change "been reached)" to "been reached"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3** *P* **130** *L* **18** # **443**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
There's another reason for discard - the simultaneous reception of a frame from the OAM client (or OAM layer) and the MAC client.

SuggestedRemedy
Add:
e) The simultaneous reception of a frame from the MAC client and the OAM client (or OAM layer).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3.1** *P* **130** *L* **19** # **961**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
This subclause should be moved to 57.3.2.4 for better readability.

SuggestedRemedy
Move subclause per suggestion.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3.1** *P* **130** *L* **21** # **1320**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
No shall for the rules.

SuggestedRemedy
Change first sentence to read:
The following rules shall govern...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.3.3.1** *P* **130** *L* **26** # **1321**
Booth, Brad Intel

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

SuggestedRemedy
Change 'See' to 'see'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.1** *P* **131** *L* **31** # **1322**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
List doesn't seem to fit here.

SuggestedRemedy
Change to read:
When the encoding of an element of an OAMPDU is depicted in a table, bits are transmitted from least significant (bit 0) to most significant.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

This is a good simplification.

Cl **57** *SC* **57.4.2** *P* **131** *L* **36** # **1323**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Change wording to remove IEEE 802.3.

SuggestedRemedy
Change first sentence to read:
OAMPDUs shall not be tagged frames (see...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2** *P* **131** *L* **39** # **167**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
For the point-to-multi-point environment, it is better to describe the LLID definition.

SuggestedRemedy
Add the following description and add the preamble field in Figure 57-8.
The LLID in the OAMPDUs is the unicast LLID (mode=0, LLIDn).

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The preamble field does not exist at the OAM sublayer and shouldn't be included in Clause 57.

Cl **57** *SC* **57.4.2** *P* **131** *L* **39** # **1324**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure is in the middle of the paragraph.

SuggestedRemedy
Move anchor point or frame properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2** *P* **131** *L* **54** # **278**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Text formating.

SuggestedRemedy
Move "tions:" to above Figure 57-8.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2** *P* **132** *L* **02** # **1325**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Cross-references in a) and c) should be possible as 43B is part of the EFM document.

SuggestedRemedy
Insert cross-references.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2** *P* **132** *L* **15** # **1326**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
The wording 'typically generated by the underlying MAC' could be misleading. Provide the reference.

SuggestedRemedy
Change above to read:
'as defined in Clause 4.'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2.1** *P* **132** *L* **28** # **1327**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
In Table 57-3, 'should' is used in description of reserved bit. Either convert should's to shall's or 'should be' to 'is'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Shalls will be used.

Cl **57** *SC* **57.4.2.1** *P* **132** *L* **36** # **1328**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Description doesn't follow format of previous bits.

SuggestedRemedy
Change to read:
1 = Local device's receive path has detected a fault
0 = Local device's receive path has not detected a fault

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2.1** *P* **132** *L* **41** # **1329**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Note in Table 57-3 should spell out that the specific faults are left up to the implementer.

SuggestedRemedy
Change 'beyond the scope of this clause' to 'left up to the implementer'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2.2** *P* **132** *L* **48** # **445**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
We should explain what to do with unknown op-codes. We seem to have two choices - discard them, or pass them to the OAM client. I'll suggest the latter here, though I'm open to the former.

SuggestedRemedy
Add sentence: Any OAMPDUs received with op-codes other than those explicitly defined in Table 57-4 should be passed to the OAM client via the OAMPDU.indication primitive.

Table 57-4: Replace "Reserved for future use" with "Reserved for future use - passed to OAM Client."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.2.2** *P* **133** *L* **11** # **93**
Takashi, Ezawa OF Networks

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

SuggestedRemedy
Change description "Loopack Control" to "Loopback Control" in the Table 57-4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3** *P* **133** *L* **11** # **340**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
"Loopack Control" should be "Loopback Control"

SuggestedRemedy
change "Loopack Control" to "Loopback Control"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #93.

Cl **57** *SC* **57.4.3** *P* **133** *L* **117** # **279**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Table 57-4 improvement.

SuggestedRemedy
I believe it would be valuable to add a fourth column "Source" to the table to indicate the source of the various OAMPDUs. For example:

Code	OAMPDU	Comment Source
	Information	OAM Client / OAM Control
	Event Notification	OAM Client
	Variable Request	OAM Client
	Variable Response	OAM Client
	Loopback Control	OAM Client
	Reserved	
	Organization Specific	OAM Client
	Reserved	

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

While only the Information OAMPDU has more than a single source, it is useful to clarify.

Cl **57** *SC* **57.4.3.1** *P* **133** *L* **29** # **343**
Braga, Aldobino UNH-IOL

Comment Type **T** *Comment Status* **D**
The Information OAMPDU frame structure shall be shown in Figure 57-9.

All shalls should be testable and the above line is not.

SuggestedRemedy
"The Information OAMPDU frame structure shall be implemented as depicted in Figure 57-9."

If you agree, this would also affect
Clause 57.4.3.2 page 134 line 4 : Event Notification
Clause 57.4.3.3 page 134 line 42 : Variable Request
Clause 57.4.3.4 page 135 line 24 : Variable Response
Clause 57.4.3.5 page 136 line 4 : Loopback Control
Clause 57.4.3.6 page 136 line 44 : Organization Specific

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.1** *P* **133** *L* **33** # **1330**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing label for octets for middle and right columns in Figure 57-9.

SuggestedRemedy
Add 'Octets' label.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.1** *P* **133** *L* **37** # **280**
Martin, David Nortel Networks

Comment Type **T** *Comment Status* **D**
Figure 57-9. TLV field swap.

SuggestedRemedy
It's more common to have all the various data fields following the header-type fields. Swap the "State" and "Version" fields in the "Information_TLV fields" portion of the figure.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.1** *P* **133** *L* **50** # **1331**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Statement 'The remaining octets of the Data field shall be set to zero.' is confusing considering the Data field contains the Information TLVs.

SuggestedRemedy
Clarify if you mean when remote_state_valid = FALSE or if you're referring to the Pad.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The referenced statement will be removed. The Data field is defined as being 28 octets in length and therefore no additional Data field octets exist.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **07** # **1332**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 57-10 needs 'Octets' labels and is in the middle of the paragraph.

SuggestedRemedy
Add labels and change frame anchor point or properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **10** # **163**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
The order of Event TLVs in a Event Notification PDU is not fixed.

SuggestedRemedy
In Figure 57-10, "Errored Symbol Period Event" should be removed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

In Dallas, the OAM STF expressed a desire for sample OAMPDU figures. Figure 57-10 is meant to be illustrative. The Editor will add text such as "Sample Event Notification" or something similar.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **15** # **164**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The timing to set the Event_Time_Stamp is not clear. For example, multiple errored symbol events can occur within the window. Is the latest time within the window should be set in the Event_Time_Stamp field?

SuggestedRemedy
It is necessary to specify the timing to set the Event_Time_Stamp in 57.3.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The OAM STF will be asked in Seoul if the timing needs to be specified. Suggest "the timestamp will be set when the OAMPDU is created."

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **28** # **1333**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing an 'and'.

SuggestedRemedy
Last sentence of first paragraph should be:
If equal, the current event is a duplicate and is ignored by the OAM client.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See comment #281.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **28** # **281**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Missing word.

SuggestedRemedy
Change "is a duplicate is ignored" to "is a duplicate and is ignored"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **31** # **656**
Arnold, Brian Cisco Systems

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

Event notification PDUs currently have timestamps in each event TLV as well as one in the PDU itself, not associated with any particular TLV.

It is not necessary to have a timestamp field in both the event notification PDU and in each event TLV inside the event notification PDU. Suggest either keep just the timestamp in the PDU, or keep the timestamps in each event TLV.

Recommend keep the timestamp in each event TLV.

SuggestedRemedy

Although it is likely that the timestamp of generation will be nearly the same for all TLVs such that only one timestamp is sufficient, the variability in a receiver processing each of the received TLVs and the single timestamp object might still result in an incorrect understanding of which time period an event TLV corresponds to.

Better would be to retain the unique timestamp associated with each event TLV, as is currently defined, and delete the less-useful timestamp in the event PDU.

This would require a change to these areas:

- Page 134, section 57.4.3.2, Figure 57-10: Remove the "Time Stamp" field between the "Sequence Number" and "Event_TLV #1" fields.

- Page 134, section 57.4.3.2, lines 31-33: Delete these lines which refer to the field that is being deleted.

- Page 150, section 57.8.3.4, lines 11-13: Delete row PDU6 of this table.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **35** # **341**
Braga, Aldobino UNH-IOL

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

"Following the Event Sequence field" should be "Following the Event Time Stamp field"

SuggestedRemedy

change "Following the Event Sequence field" to "Following the Event Time Stamp field"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **36** # **297**
Ho, Julian Vitesse

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

Define padding to be consistent with 57.5.1, pg 137, line 29, or remove the line in 57.5.1.

SuggestedRemedy

Add "The remaining octets of the data field shall be set to zero."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #447, which defines a more complete set of TLV parsing rules. One of rules defines a null TLV has having type set to zero - meaning end of TLVs.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **36** # **1334**
Booth, Brad Intel

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

Last sentence of last paragraph ends in double period.

SuggestedRemedy

Delete one period.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.2** *P* **134** *L* **36** # **268**
Fujita, Toshihiko Hitachi Communication

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

Description of a subclause number is imperfect.

SuggestedRemedy

Change "Event TLVs are defined in 57.5.." to "Event TLVs are defined in 57.5.3.".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.3** *P* **134** *L* **40** # **1335**
Booth, Brad Intel

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

Change 'IEEE 802.3' to 'MIB'.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.3** *P* **135** *L* **01** # **342**
Braga, Aldobino UNH-IOL

Comment Type **T** *Comment Status* **D**
Variable Request from a passive peer shall respond with the variable error
But Loopback Control from a passive peer shall just ignore

Is there any advantage to sending the variable error? why not just ignore?
(Why cater to invalid implementations with added complexity?)

SuggestedRemedy
Just ignore it.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.3** *P* **135** *L* **02** # **1336**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Double period at end of sentence.

SuggestedRemedy
Delete one.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.3** *P* **135** *L* **04** # **1337**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 57-11 needs 'Octets' labels and needs more information related to Variable Descriptors and Pad.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Editor needs to provide specific text.

Cl **57** *SC* **57.4.3.4** *P* **135** *L* **24** # **1339**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'IEEE 802.3' to be 'MIB'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.4** *P* **135** *L* **26** # **1338**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
The variable request is much shorter than the variable response. It is possible to generate more variable requests in one OAMPDU than can be handled by a single variable response OAMPDU. It is also noted that the variable container size is shown as 7 octets in Figure 57-12, but is documented in Table 57-12 as being up to 131 octets.

SuggestedRemedy
Determine mathematically the maximum number of requests that can be made per OAMPDU to be responded to by one OAMPDU. Update Figure 57-12 to reflect the maximum variable container size and provide information to indicate that diagram is showing an example. Add 'Octets' labels.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The 'Octets' label will be added to Figure 57-11.

As to the suggestion to calculate the maximum number of requests, the Editor disagrees. OAMPDUs can vary in length from minFrameSize to maxFrameSize. In addition, devices may return variables that are wider or narrower than the MIB definitions. This is the reason the width is provided in the Variable Container.

Cl **57** *SC* **57.4.3.4** *P* **135** *L* **36** # **165**

Ken, Murakami — Mitsubishi Electric

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

The name of field is not correct.

SuggestedRemedy

Replace "Length" with "Width" in Figure 57-12.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Annex 30A refers to the "width" of the counters. The Editor prefers "Width" to "Length".

Cl **57** *SC* **57.4.3.5** *P* **136** *L* **04** # **1340**

Booth, Brad — Intel

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

Keep figure number together on one line.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment #1281. Editor will determine how to prevent hyphenation in Framemaker.

Cl **57** *SC* **57.4.3.5** *P* **136** *L* **07** # **1341**

Booth, Brad — Intel

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

Figure 57-13 and Table 57-5 are in the middle of the paragraph.

SuggestedRemedy

Move anchor point or change properties.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.6** *P* **136** *L* **41** # **85**

Koichiro Seto — Hitachi Cable

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

(1) There is no description how one should do when one received an organization specific OAM PDU which OUI one does not understand.

(2) Allowing vendor specific OAMPDU will encourage vendors to come up with proprietary OAMPDUs and make EFM equipment virtually non-interoperable between vendors.

(3) Allowing vendor specific OAMPDU is violation against the sprit of limiting Slow Protocol subcode type less than 10. It will create as many types of OAMPDU as EFM equipment vendors.

(4) Vendors can always implement vendor specific protocols over their equipment using their own MAC address and Type code. The vendor specific protocols are out of scope for EFM standard.

SuggestedRemedy

Remove organization specific OAM PDU.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Responses to each of the points in the comment:

(1) This is left up to the OAM client, just like unknown OAMPDUs.

(2) Other groups such as the ITU and MEF have requested a mechanism to establish extensions mechanisms and the OAM STF created the Organization Specific OAMPDU as a result. The OAM STF has responded to liaisons accordingly.

(3) The Editor's understanding is that the limit on number of Slow Protocols was to limit the amount of processing/frames per second an implementation (processor) is required to handle.

(4) The term Vendor Specific OAMPDU is being removed from the clause. It is being replaced with Organization Specific OAMPDU. There is precedent for allowing extensions to the standard. Please refer to 37.2.4.3 Next Page function and Table 22-6 MII management register set, which details sixteen vendor specific registers.

Cl **57** *SC* **57.4.3.6** *P* **136** *L* **44** # **1342**

Booth, Brad Intel

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

Keep figure number on one line.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.4.3.6** *P* **136** *L* **45** # **1343**

Booth, Brad Intel

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

3rd, 4th and 5th sentences are unclear.

SuggestedRemedy

Change to read:

Organizations are distinguished by the Organizationally Unique Identifier (OUI) as per 22.2.4.3.1. The first three octects of the organization specific OAMPDU data field contains the 24-bit OUI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.1** *P* **137** *L* **26** # **447**

Squire, Matt Hatteras Networks

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

We need more TLV rules to cover error cases.

SuggestedRemedy

Replace first paragraph with:

All OAM TLVs contain a single octet Type field and a single octet Length field. The Length field encompasses the entire TLV including the Type and Length fields. TLV processing shall obey they following rules

a) Detection of a TLV type 0x00 shall indicate there are no more TLVs to process (the length and value of the Type 0x00 TLV can be ignored).

b) TLVs with lengths 0x00 or 0x01 shall be considered invalid, and the OAMPDU shall be considered to have no more TLVs

c) TLVs with unknown or unexpected types shall be ignored

d) TLVs defined in this specification whose actual length is less than that specified herein shall be ignored

e) TLVs defined in this specification whose actual length is greater than that specified in this specification shall have the fields defined in this specification considered valid and the extra octets shall be ignored

f) If a TLV length indicates that the TLV extends beyond the frame (e.g. the length cannot fit into the frame given its length and starting point), then the TLV shall be ignored

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **706**

Chan Kim ETRI

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

State is one octet long.

SuggestedRemedy

Change to "State. This one-octet field.."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **444**

Squire, Matt — Hatteras Networks

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

During one of the OAM conference calls, we looked at adding a version number to the Local Information TLV so that it is easy for a peer to know that "something" has changed and they need to process the TLV (versus just ignoring it). Here's the attempt to address it.

SuggestedRemedy

P137, L48: Add "Revision number. This two-octet field indicates the current revision of the local information TLV. The value of this field should start at zero and be incremented each time something in the TLV changes. Upon reception of a Local Information TLV from a peer, a node may use this field to decide if it needs to be processed (an Information TLV that is identical to the previous Information TLV doesn't need to be parsed as nothing in it has changed). "

P137, L47: Length goes to 16 (0x10).

P 127 L47: Add new paragraph. "Upon receiving an Information OAMPDU with a revision number equal to that of the previous Information OAMPDU, a device may choose to ignore processing the fields of the Informtion OAMPDU as no new information will be learned. The device must still count the OAMPDU for the local_link_lost_timer (See 57.3.3.1)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **446**

Squire, Matt — Hatteras Networks

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

Seems like version should come before state.

SuggestedRemedy

Suggest version come before state in TLV (affects figure 57-9 as well).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **426**

GIRI K K — Wipro Technologies

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

The "State" field is mentioned as 2 byte field, while in table 57.6, it is shown as 1 byte field.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment #269.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **964**

Daines, Kevin — World Wide Packets

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

Width incorrect.

SuggestedRemedy

Change "two" to "one".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See comment #269.

Cl **57** *SC* **57.5.2.1** *P* **137** *L* **48** # **269**

Fujita, Toshihiko — Hitachi Communication

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

The octet size described is different.

SuggestedRemedy

Change "This two-octet field " to "This one-octet field ".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **138** *L* **01** # **1344**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Tables 57-6 and 57-7 are in the middle of the paragraph.

SuggestedRemedy
Move anchor point or change table properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.1** *P* **138** *L* **07** # **1345**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table formats are inconsistent.

SuggestedRemedy
Change Table 57-6 bit descriptions.

For bit 3, to read as follows:
0 = Device is forwarding non-OAMPDUs to the lower sublayer (local_mux_action = FWD).
1 = Device is discarding non-OAMPDUs (local_mux_action = DISCARD).

For bit 2, to read as follows:
Bits 2:1
00 = Device is forwarding non-OAMPDUs to higher sublayer (local_par_action = FWD).
01 = Device is looping back non-OAMPDUs to the lower sublayer (local_par_action = LB).
10 = Device is discarding non-OAMPDUs (local_par_action = DISCARD).
11 = Reserved.

For bit 1, to read as follows:
0 = Device has not seen or is unsatisfied with remote state information (local_stable = FALSE).
1 = Device has seen and is satisfied with remote state information (local_stable = TRUE).

In Table 57.7, add periods to the end of the descriptions and delete the first line of the description for bit 0.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The value of 0x3 will be modified per #448. The rest of the remedy is accepted.

Cl **57** *SC* **57.5.2.1** *P* **138** *L* **20** # **448**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Add ignored on receipt.

SuggestedRemedy
The value 0x3 shall not be sent, and if received the PDU shall assume the previous state of the parser still holds.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.2** *P* **139** *L* **01** # **1128**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Tables 57-8 and 57-9 are in middle of paragraph.

SuggestedRemedy
Move anchor point or change properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.2** *P* **139** *L* **29** # **1129**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote a for Table 57-9 should reference Clause 22.

SuggestedRemedy
Change to read:
See 22.2.4.3.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.2.2** *P* **139** *L* **33** # **968**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_""s for consistency.

SuggestedRemedy
5 places through line 45.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3** *P* **140** *L* **35** # **657**

Arnold, Brian — Cisco Systems

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

Some have expressed concern over the nature of events, and that the current method of providing just "last seen" info in Clause 30 attributes can cause loss of information (due to updating of fields that could be quicker than noticing changes in attributes).

One idea based on Jonathan Thatcher's discussion on the reflector of keeping a running count per error event may help.

SuggestedRemedy

Have fun with this...

Add a field to each of the three non-summary event TLVs that represents the running count of those errors that have occurred since the initialization of the OAM sublayer. These counters would be non-resettable and would overflow. This would allow the accumulation of errors that have exceeded their respective thresholds, and not have the information lost if the receiver didn't notice an update to the remote event attributes.

Specifically, these areas would be affected:

Page 140: 57.5.3.1, line 35
Add (g) Errored_Symbol_Total. This eight-octet field indicates the sum of symbol errors accumulated from all errored symbol period event TLVs that have been generated since the OAM sublayer was initialized. Note that this does not include symbol errors during periods during which the number of symbol errors did not exceed the threshold.

Page 141: 57.5.3.2, line 16
Add (g) Errored_Frame_Seconds_Total. [Similar text at Editor's discretion]

Page 141: 57.5.3.3, line 45
Add (g) Errored_Frame_Period_Total. [Similar text at Editor's discretion]

Page 134: 57.4.3.2, Figure 57-10. Diagram of event TLV at right side would need to be modified to include the new field.

Page 126: 57.3.1.4, Counters. New counters need to be added that are maintained by the local OAM sublayer and are used to populate the new total counter fields of error event TLVs. Naming at Editor's discretion, but suggested sample text follows:

- error_symbol_period_total: A counter reset by the initialization of the OAM sublayer, and represents the accumulation of values populated in errorred symbol period event TLVs that are generated by the local OAM sublayer. When the errorred symbol period value equals or exceeds the threshold for the current period, the value placed in the "Errored_Symbols" field of the TLV is added to the current_error_symbol_period_total, and the new value of current_error_symbol_period_total is placed in the "Errored_Symbol_Total" field of the TLV.
- error_frames_second_total: [Similar text at Editor's discretion]
- error_frames_period_total: [Similar text at Editor's discretion]

Page 151: 57.8.4. Items ET1, ET2, and ET3 on lines 30-46 would need to change. The "Value/Comment" column would need to reflect the additional field.

Clause 30 changes as well, at Editor's discretion:
Page 59, section 30.11.1.1.41: add "A fourth INTEGER represents..."
Page 59, section 30.11.1.1.42: add "A fourth INTEGER represents..."
Page 59, section 30.11.1.1.43: add "A fourth INTEGER represents..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor proposes to review supplemental presentation from Brian Arnold adding detail and explanation related to this comment in Seoul.

Editor will submit arnold_oam_1_0503.pdf on behalf of Brian Arnold. Editor will also attempt to summarize reflector discussion.

Cl **57** *SC* **57.5.3.1** *P* **140** *L* **14** # **358**

Gerhardt, Floyd — Cisco Systems

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

There is no definition of the Errored Symbol Period Event TLV.

SuggestedRemedy

Add the following definition before the description:
The Errored Symbol Period TLV counts the number of symbol errors that occurred during the specified period. The period is specified by the number of symbols that can be received in a time interval on the underlying physical layer. This event is generated if the symbol error count is equal to or greater than the specified threshold for that period.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.1** *P* **140** *L* **15** # **969**

Daines, Kevin — World Wide Packets

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

Remove "_""s for consistency.

SuggestedRemedy

8 places through line 33.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.2** *P* **140** *L* **38** # **359**

Gerhardt, Floyd — Cisco Systems

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

1.) Errored Frame Seconds Event TLV, should be renamed to Errored Frame Event TLV. Because there is an Errored Frame Seconds Summary Event TLV, which is a summary of errored frames in a second and is different than this event, the similarity in names causes confusion as what this event means.

2.) There is no definition of the Errored Frame Event TLV.

SuggestedRemedy

1.) Change the event name on line 38 to read:
Errored Frame Event TLV

Change the first sentence of line 51 to read:
Event_Type = Errored Frame Event.

Change the sentence in line 52 to read:
Errored Frame Event is identified by the value 0x02.

Change the 2nd sentence of line 53 to read:
Errored Frame Event uses a length value of 14 (0x0E).

2.) Add the following definition before description on line 49:
The Errored Frame TLV counts the number of frame errors that occurred during the specified period. The period is specified by a time interval. This event is generated if the frame error count is equal to or greater than the specified threshold for that period.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.2** *P* **140** *L* **41** # **1130**

Booth, Brad — Intel

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

Spelling mistake.

SuggestedRemedy

Change 'paramter' to 'parameter'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.2** *P* **140** *L* **49** # **360**

Gerhardt, Floyd — Cisco Systems

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

The first sentence: "An errored frame second is a one second interval wherein at least one frame error has occurred." is not correct for the Errored Frame Event.

SuggestedRemedy

Delete this sentence. This sentence will be added to the new description for Errored Frame Seconds Summary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.2** *P* **140** *L* **49** # **282**

Martin, David — Nortel Networks

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

Text clarity.

SuggestedRemedy

Move the sentence "An errored frame second is a one second interval wherein at least one frame error has occurred." to sub-clause 57.5.3.4, page 141, line 50.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #362, which incorporates the this comment's remedy.

Cl **57** *SC* **57.5.3.2** *P* **140** *L* **51** # **970**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
9 places through page 141 line 14.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.3** *P* **141** *L* **19** # **971**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
9 places through line 43.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.3** *P* **141** *L* **21** # **361**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
There is no definition of the Errored Frame Period Event TLV.

SuggestedRemedy
Add the following definition before the description:
The Errored Frame Period TLV counts the number of frame errors that occurred during the specified period. The period is specified by the number of minFrameSize frames that can be received in a time interval on the underlying physical layer. This event is generated if the frame error count is equal to or greater than the specified threshold for that period.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.4** *P* **141** *L* **50** # **283**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Text clarity.

SuggestedRemedy
Change "Refer to 57.5.3.2 for a description of errored frames." to "Refer to 57.5.3.2 for the definition of an errored frame."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.4** *P* **141** *L* **50** # **362**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
There is no definition of the Errored Frame Seconds Summary Event TLV.

SuggestedRemedy
Add the following definition before the description:
The Errored Frame Seconds Summary TLV counts the number of errored frame seconds that occurred during the specified period. The period is specified by a time interval. This event is generated if the number of errored frame seconds is equal to or greater than the specified threshold for that period. An errored frame second is a one second interval wherein at least one frame error has occurred.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.4** *P* **141** *L* **52** # **972**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
12 places through page 142 line 17.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.5** *P* **142** *L* **24** # **449**
Squire, Matt Hatteras Networks

Comment Type **TR** *Comment Status* **D**
As discussed on one of our conference calls, the Vendor specific TLV should have its own OUI. This is to allow a vendor/implementor to use TLVs defined by other vendors or organizations.

SuggestedRemedy
EventType = 0xFF Vendor extension Event Type. This TLV can be used by vendors or organizations to define extensions to the Event mechanisms of this specification.
Event Length (same)
Vendor Specific Value. The first three octets of the TLV carry a 24-bit Organizationally Unique Identifier (OUI). The remainder of the TLV value contains information as defined by that organization.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.5** *P* **142** *L* **24** # **973**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
4 places through line 30.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.5.3.5** *P* **142** *L* **31** # **1131**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Extra 'and'.

SuggestedRemedy
Change to read 'This field's length and contents are unspecified.'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.6** *P* **142** *L* **35** # **1132**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete 'IEEE 802.3'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.6.1** *P* **142** *L* **42** # **1133**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'IEEE 802.3' to 'MIB' and add cross-reference to 30A which is part of the EFM document.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.6.2** *P* **142** *L* **48** # **1134**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'IEEE 802.3' to 'MIB'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.7** *P* **142** *L* **52** # **284**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Title header formating

SuggestedRemedy
Since this sub-clause is providing examples for the previous sub-clause 57.6, change the heading level from h2 to h3 (i.e. 57.6.3).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Yep, the level was a mistake.

Cl **57** *SC* **57.7** *P* **142** *L* **52** # **1135**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Place header and corresponding text before Table 57-14. If the information is informative, the header should indicate that.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.7** *P* **143** *L* **07** # **168**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
Bit numbering is strange in Table 57-11 and Table 57-12.

SuggestedRemedy
Change the bit numbering in these tables as other tables.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The order of the fields will be reversed.

Cl **57** *SC* **57.7.1** *P* **144** *L* **21** # **376**
Nitosa, koji NEC

Comment Type **E** *Comment Status* **D**
0x0-7F are corrected to 0x08-7F.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8** *P* **145** *L* **01** # **345**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
The PICS are not up to date.

SuggestedRemedy
use braga_oam_1_0503.pdf as the basis for the PICS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8** *P* **145** *L* **01** # **344**
Braga, Aldobino UNH-IOL

Comment Type **E** *Comment Status* **D**
Only some of the "reserved" fields in tables have shalls associated with them.

SuggestedRemedy
Either remove the "shall write as zeros, shall ignore on read" or update every instance of "reserved" in the tables.

A search of the standard only came up with 4 clauses where reserved bits made it in the PICS?

Personally I'd like it in the PICS. But it's your call. Really just looking for consistency.

Might also want to combine them so its only one shall?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The Editor prefers reserved fields showing up in the PICS. Perhaps one entry would suffice.

Cl **57** *SC* **57.8.2** *P* **146** *L* **01** # **1136**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Should be on page 145. Remove page break.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.2.2** *P* **146** *L* **30** # **1137**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change date to '200x'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.2.3** *P* **146** *L* **47** # **1138**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Cross-reference 30.11 exists as part of EFM; therefore, cross-reference should be inserted. Also, the orphan setting for the table should be increased to put table on one page.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.2.3** *P* **146** *L* **47** # **285**
Martin, David Nortel Networks

Comment Type **E** *Comment Status* **D**
Question: What is the significance of the asterisks in the "Item" column of the table?

SuggestedRemedy
Explain significant of the asterisks.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Asterisks are explained in 21.6.6.

Note: "Reject" because no changes to the clause are required.

Cl **57** *SC* **57.8.2.3** *P* **146** *L* **53** # **298**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
Passive mode should be mandatory. OAM is optional, which requires at minimum passive mode.

SuggestedRemedy
Change to mandatory.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See braga_oam_01_0503.pdf for a suggestion of how to include Active and Passive modes in PICS.

Cl **57** *SC* **57.8.2.3** *P* **146** *L* **54** # **450**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
Seems like passive mode is optional? Suggested on one of our conference calls that an implementation must implement either active or passive modes, and may implement both modes.

SuggestedRemedy
See above.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See braga_oam_01_0503.pdf for a suggestion of how to include Active and Passive modes in PICS.

Cl **57** *SC* **57.8.2.3** *P* **146** *L* **54** # **299**
Ho, Julian Vitesse

Comment Type **E** *Comment Status* **D**
Include Active mode.

SuggestedRemedy
Active mode is optional.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See braga_oam_01_0503.pdf for a suggestion of how to include Active and Passive modes in PICS.

Cl **57** *SC* **57.8.3** *P* **148** *L* **01** # **1140**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Should start on previous page.

SuggestedRemedy
Remove page break.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.3.1** *P* **148** *L* **24** # **1139**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'validly-formed' to 'valid'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.3.2** *P* **149** *L* **06** # **86**
Koichiro Seto Hitachi Cable

Comment Type **TR** *Comment Status* **D**
In order for an ONU or copper modem to support dying gasp in power failure condition, OAM sublayer need to keep itself alive until it finish sending the current user frame (max 1518 Byte) and then sending dying gasp. If supporting dying gasp (critical event generation) is mandatory, even a cheapest EFM modem needs to carry large battery and make itself more expensive.

SuggestedRemedy
Make critical event generation optional to allow less expensive implementation.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The OAM sublayer has to support critical event notification. Clause 57 does not define critical events (e.g. dying gasp on P120 is just "unrecoverable"). Since Clause 57 does not specify OAM client behavior, an OAM client that doesn't have a big battery can still be conformant. But since this may be implemented in a MAC device that doesn't know what the system has, the OAM part should be able to support it.

Cl **57** *SC* **57.8.3.3** *P* **149** *L* **22** # **1141**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Feature names for LS1, LS2, LE1 and LE2 are descriptions and should be shorter.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

31B.4.6 was reviewed to provide an example for timing PICS features. Nonetheless, the referenced features will be re-examined.

Cl **57** *SC* **57.8.3.5** *P* **151** *L* **07** # **974**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
8 places through line 22.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.4** *P* **151** *L* **28** # **1142**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change column width for Value/Comment to make table more readable.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.4** *P* **151** *L* **31** # **975**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
39 places through page 152 line 6.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.4** *P* **151** *L* **36** # **368**
Gerhardt, Floyd Cisco Systems

Comment Type **T** *Comment Status* **D**
Errored Frame Seconds Event TLV was renamed to Errored Frame Event TLV.

SuggestedRemedy
In the Feature column of ET2 change Errored Frame Seconds TLV to Errored Frame Event TLV.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **57.8.5** *P* **152** *L* **16** # **1143**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
VAR2, 3, 5 and 6 have the same Feature description 'Variable Branch'.

SuggestedRemedy
Change feature name to be more specific.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Figure 57-10** *P* **134** *L* **20** # **963**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
e.g. change "Event_" to "Event". 5 places.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Figure 57-4** *P* **127** *L* **21** # **878**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
When two or more exit conditions from a state are possible, then these exit conditions must be defined to be mutually exclusive. It is not credible that the condition (local_satisfied=FALSE) is mutually exclusive with (remote_stable=STABLE).

SuggestedRemedy
Make exit conditions mutually exclusive.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Exit from SEND_LOCAL_REMOTE_2 to SEND_ANY will be changed to:

"local_satisfied=TRUE * remote_stable=STABLE"

Exit from SEND_ANY to SEND_LOCAL_REMOTE_2 will be changed to:

"local_satisfied=TRUE * remote_stable=UNSTABLE"

Cl **57** *SC* **Figure 57-4** *P* **127** *L* **27** # **1058**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 57-4: In state SEND_LOCAL_REMOTE_2 need to send INFO frame again (i.e. add local_tx <= INFO).

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See response to comment #384, which proposes to add "Generate OAM:MADR" in SEND_LOCAL_REMOTE_2 state and other applicable states. #384 should resolve the intent of this comment.

Cl **57** *SC* **Figure 57-9** *P* **133** *L* **45** # **962**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
e.g. change "Information_" to "Information". 8 places.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Table 57-10** *P* **140** *L* **02** # **1083**
Law, David 3Com

Comment Type **T** *Comment Status* **D**
Suggest it would be better to list the Event TLV Type values in Table 57-10 and then reference the values from the various subclauses as for example the OAMPDU codes are listed.

SuggestedRemedy
List the possible Event TLV Type values in Table 57-10. Remove the specification of the values from subclauses 57.5.3.1 through 57.5.3.5 and reference Table 57-10 instead. In addition change any references to subclauses 57.5.3.1 through 57.5.3.5 in relation to the Event TLV Type values in Clause 30.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Table 57-7** *P* **138** *L* **29** # **965**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
3 places

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Table 57-8** *P* **139** *L* **01** # **966**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
3 places.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **57** *SC* **Table 57-9** *P* **139** *L* **18** # **967**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Remove "_"'s for consistency.

SuggestedRemedy
3 places.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* *P* *L* # **99302**
Murphy, Tom Infineon

Comment Type **TR** *Comment Status* **A** *Jitter D1.3 #485*
Jitter discussions for Clause 58 await a decision on the clocking architecture of the PON system.

SuggestedRemedy
Need a decision of the larger group regarding EPON clock/timing structure

Proposed Response *Response Status* **U**
ACCEPT IN PRINCIPLE.

Input on this topic is encouraged for upcoming meetings. This isssue was discussed in a combined session with the following points raised.

1) A loop timing system would require definition of a jitter transfer function. This would be the more 'efficient' approach

2) A free running ONU would require allocation in the protocol for phase difference between signals. For this system, the jitter figures up and downstream would be very similar (with the exception of allowances for upstream burst-mode considerations)

3) No feeling as to 'best approach'

Cl **58** *SC* *P* **154** *L* **1** # **1155**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Notes do not seem to be consistent in format.

SuggestedRemedy
Ensure that all notes conform to the IEEE style guide.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **1** *P* **154** *L* **4** # **808**
van Veen, Dora Lucent Technologies

Comment Type **E** *Comment Status* **D** *Attn*
Here it says "UP to 10 km and 20 km long..." while on page 154 line 36 and 38 it says >= 10 km and >= 20 km.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Exact wording will be discussed at the meeting

Cl **58** *SC* **1** *P* **155** *L* **33** # **811**

van Veen, Dora — Lucent Technologies

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

In the FSAN-APON a socalled 'logical reach' is defined. This is the maximum reach of the protocol (not limited by optical power budget). Should we define such a parameter for EPON?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. This question should be directed to the protocol group and will be refered to them

Cl **58** *SC* **1** *P* **155** *L* **44** # **810**

van Veen, Dora — Lucent Technologies

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

Why is there no Maximum range specified?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. The spirit of the optics specs included is to guarantee operation over 10/20 km at worst case conditions. Transmission distances at 'best-case' are implementation specific in terms of laser used, quality of the fibre plant, temperature control... If a logical reach is agreed upon, this will be reflected in the optics clauses

Cl **58** *SC* **1** *P* **155** *L* **45** # **809**

van Veen, Dora — Lucent Technologies

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

It is not clear if the Minimum and Maximum channel insertion loss is referring to just One PON. In other words, is for example the maximum differential insertion loss of a 1000BASE-PX10-U 15 dB?

SuggestedRemedy

extra note

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. A note will be added explaining the text

Cl **58** *SC* **4.1** *P* **160** *L* **37,38** # **722**

Meir Bartur — Optical Zonu Corporati

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

Power for downstream (OLT probably DFB) should be -1 to +4 and upstream (ONU probably FP) -3 to +2 dBm. I think the columns were switched by mistake. (The 20 km values are OK the ONU is 2 dB "weaker" than the OLT))

SuggestedRemedy

Switch the values between the two column U and D.

Proposed Response *Response Status* **W**

PROPOSED REJECT. These values are correct. The intention was to have the optical power levels at the ONU the same for both 10 & 20 km. This results in the lower ONU power for 10 km.

Cl **58** *SC* **4.1** *P* **161** *L* **30-32** # **723**

Meir Bartur — Optical Zonu Corporati

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

Relying on spectral width only will not allow for low k factor FP lasers to be advantageously utilized.

SuggestedRemedy

Allow for two options: Spectral width as defined OR actual measurement of penalty with 10 km of worst - case fiber or equivalent, providing for actual total dispersion test. Reference receiver sensitivity penalty for worst case fiber (zero dispersion wavelength 1300 nm for wavelength higher that 1310 nm and zero dispersion wavelength 1324 nm for wavelength lower that 1310 nm) should be less than 2 dB. Measurement to be conducted at the appropriate BER (10^-12 for non FEC and 10^-4 for FEC enabled systems). This will resolve FEC issues for both 10 and 20 km links.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. The current status of the epsilon values represents two 'k-values', one stringent and the other relaxed. If the lower 'k-value' is to be further relaxed, evidence would have to be presented to justify this. In terms of testing, the proposed changes could be reflected in the text

Cl **58** *SC* **58.1** *P* **154** *L* **20** # **1145**
Booth, Brad Intel

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

Delete last sentence of 3rd paragraph as the reader should go to Annex 66A for the information about compliance.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED REJECT. I believe that this clarification is useful at this point. Will be discussed at the meeting

Cl **58** *SC* **58.1** *P* **154** *L* **3** # **1144**
Booth, Brad Intel

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

First paragraph is confusing.

SuggestedRemedy

Change to read:
The 1000BASE-PX10 and 1000BASE-PX20 PMD sublayers provide point-to-multipoint (P2MP) 1000BASE-X connections over passive optical networks (PONs) up to 10 km and 20 km, respectively. In an Ethernet PAN, a single downstream ("D") PMD broadcasts to multiple upstream ("U") PMDs and receives bursts from each "U" PMD over a single duplex, branched topology, single-mode fiber network. This clause specifies...

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.1** *P* **155** *L* **1** # **1148**
Booth, Brad Intel

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

Figure 58-1 needs to be corrected.

SuggestedRemedy

Change title to be:
P2MP PMDs relationship to the ISO/IEC Open Systems Interconnection (OSI) reference model and the IEEE 802.3 CSMA/CD LAN model

Delete OLT and bracket, delete the right ONU stack and labels. Make the left border of the MEDIUM look like the right border (to imply shared network). Add the port types beneath the MEDIUM. Delete OLT and ONU from the list of abbreviations.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Changes will be made

Cl **58** *SC* **58.1** *P* **155** *L* **33** # **1149**
Booth, Brad Intel

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

Changes to Table 58-1.

SuggestedRemedy

Change title to be 'PON PMD types'. Delete 'Number of fibres' row as 58.1 should specify.

Proposed Response *Response Status* **W**

PROPOSED REJECT. A comment at the last session included this line

Cl **58** *SC* **58.1** *P* **155** *L* **48** # **256**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

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

"nominal operating wavelength" is not appropriate.

SuggestedRemedy

Change "nominal operating wavelength" to "nominal transmit wavelength", as like used in Table 58-1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.1.1** *P* **154** *L* **26** # **1146**
Booth, Brad Intel

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

Change Goals and Objectives to be a viable subclause.

SuggestedRemedy

Change 58.1.1 to read:
58.1.1 Objectives

Support subscriber access network topologies:
a) Point to multipoint on optical fiber.
b) 1000 Mbps up to 10 km on one duplex single-mode fiber supporting a downstream:upstream ratio of 1:16.
c) 1000 Mbps up to 20 km on one duplex single-mode fiber supporting a downstream:upstream ratio of 1:16.
d) BER better than or equal to 10-12 at the PHY service interface.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text will be discussed at the meeting

Cl **58** *SC* **58.1.3** *P* **154** *L* **52** # **1147**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Delete 58.1.3 as this information is implied when you pick up an IEEE 802.3 document.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. This section was added at the last round and is consistent with other clauses

Cl **58** *SC* **58.1.4** *P* **156** *L* **23** # **1150**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Notes following the primitives need to be cleaned up.

SuggestedRemedy
Delete NOTE1. NOTE2 should be in its own subclause titled 'Delay contraints'. NOTE3, first sentence should be in 58.1.4.3, second sentence should be deleted.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Need to be consistant across clauses. The latter point will be discussed at the meeting as the issue of laser control is also in discussin in the protocol group and there may be feedback and changes coming from this STF. See omment 1376

Cl **58** *SC* **58.1.4.1** *P* **156** *L* **36** # **1**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Harmonize with Clause 59.

SuggestedRemedy
Change "...1250 MBaud..." to "...1.25 GBaud..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.2** *P* **156** *L* **45** # **2**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Harmonize with Clause 59.

SuggestedRemedy
Delete the words "When generated..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.3** *P* **156** *L* **50** # **1151**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
What about turning off the laser?

SuggestedRemedy
Change to read '... to turn on and off the transmitter...'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.3** *P* **156** *L* **53** # **257**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **E** *Comment Status* **D**
"PMD_SIGNAL.indicate(tx_enable)" is not appropriate.

SuggestedRemedy
Change "PMD_SIGNAL.indicate(tx_enable)" to "PMD_SIGNAL.request(tx_enable)".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.3** *P* **157** *L* **1** # **1152**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Insert space at start of the sentence.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.4** *P* **157** *L* **10** # **1153**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Space needed between = and FAIL.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.1.4.4** *P* **157** *L* **16** # **1154**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Last sentence of the NOTE should be part of the above PMD_SIGNAL.indicate description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Change will be made

Cl **58** *SC* **58.10** *P* **175** *L* **8** # **21**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Text incorrectly placed; harmonize with Clause 59.

SuggestedRemedy
Move all of the text curently in 58.10.2 to 58.10.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.1** *P* **175** *L* **11** # **1359**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.2** *P* **175** *L* **44** # **22**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Text incorrectly placed; harmonize with Clause 59.

SuggestedRemedy
Move the first sentence in 58.10.3 to 58.10.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.2** *P* **176** *L* **3** # **783**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Please make the table widervder

SuggestedRemedy
per comment

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.3** *P* **175** *L* **54** # **399**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "Table 58-17" into "Table 58-18".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.3** *P* **175** *L* **54** # **1360**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Bad cross-reference.

SuggestedRemedy
Change cross-reference to Table 58-18.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.10.3** *P* **175** *L* **54** # **23**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incorrect reference.

SuggestedRemedy
The reference to "Table 58-17" should reference "58-18"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.10.3** *P* **176** *L* **1** # **24**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Incorrect Table title.

SuggestedRemedy
In Table 58-18, replace "Optical fiber cable characteristics" with "Optical fiber and cable characteristics"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.3** *P* **176** *L* **16** # **1361**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Typos.

SuggestedRemedy
Add 'ITU-T' and period to footnote d.
Add period at end of paragraph on line 23.
Change 'fibre' to 'fiber'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.3** *P* **176** *L* **25** # **400**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **E** *Comment Status* **D** *Attn*
4 numbers of 3.5, 4, 7.5 and 8 appear suddenly.
Cable attenuation for PX20 downstream can also calculate 0.35(dB/km) x 20(km) =7(dB) with refering Table 58-18.

SuggestedRemedy
Add "downstream", "upstream", "1000BASE-PX10", "1000BASE-PX20" and a little words for 7.5dB properly.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Exact wording will be discussed at the meeting

Cl **58** *SC* **58.10.4** *P* **176** *L* **36** # **25**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "...are..." with "...is..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.4** *P* **176** *L* **40** # **1362**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
List format.

SuggestedRemedy
List should follow IEEE style guide format.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.10.4** *P* **176** *L* **45** # **1363**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Full reference not required as it should be specified in Clause 1.

SuggestedRemedy
Delete text after IEC 61753-1-1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.10.4** *P* **176** *L* **47** # **26**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Clarification and harmonization with Clause 60.

SuggestedRemedy
Reword note to read: "Note: Compliance testing is performed at TP2 and TP3 as defined in 58.3.1, not at the MDI."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.11** *P* **177** *L* **1** # **654**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
I've made a few minor modifications to the PICS tables.

SuggestedRemedy
See elynskey_3_0503.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.11.2** *P* **178** *L* **1** # **1364**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
58.11.2 should be on page 177.

SuggestedRemedy
Delete page break.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.11.2.2** *P* **178** *L* **25** # **1365**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change two dates from '2003' to '200x'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.11.3** *P* **179** *L* **8** # **1366**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
PICS entries need to reflect what is really in the clause.

SuggestedRemedy
High temperature and low temperature are have not shall applied, therefore they should be deleted. *PX10U should be changed to *PX10, and *PX10D should be deleted. *PX20U should be changed to *PX20, and *PX20D should be deleted.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Regarding the temperature issue, these included entries reflect the decision of the group to include relevant entries in the PICS. Perhaps the document text needs to be changed to indicate this, will be discussed at the meeting. The last changes will be implemented. [NOTE please confine a singler comment to a single issue - :-) Tom]

Cl **58** *SC* **58.11.4.3** *P* **180** *L* **43** # **1367**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Remove colon from item names.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.11.4.6** *P* **181** *L* **51** # **1368**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Insert N/A[ ] to FO1 item.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.2** *P* **157** *L* **19** # **1156**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Delete '(informative)' from the title.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. The MDIO function mapping is informative in all clauses. The normative information should be in Clause 45.
This will be discussed at the meeting.

Cl **58** *SC* **58.3** *P* **157** *L* **53** # **3**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Change "...Transmit and Receive..." to "...transmit and receive..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.1** *P* **158** *L* **3** # **385**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Test points TP1-TP4 are defined for the direction of OLT -> ONU.
(Example, TP2 is at optical output from OLT.)
It is necessary to define another direction of ONU -> OLT.

SuggestedRemedy
Example,
TP5: ONU in side
TP6: ONU out side
TP7: OLT in side
TP8: OLT out side

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. This issue has arisen in telephone conference and reflector discussions and needs to be discussed at the meeting, perhaps in front of the whole group

Cl **58** *SC* **58.3.2** *P* **158** *L* **49** # **1157**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete '("U" PMD transmitting)' as it is redundant. Delete 3rd paragraph as it is a repeat of 2nd paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.2** *P* **158** *L* **53** # **803**
Onishi, Kazumi OF Networks

Comment Type **E** *Comment Status* **D**
The description in line53 to 54 is a duplicate of line49 to 50.

SuggestedRemedy
Delete line53 and line54.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.2** *P* **158** *L* **53, 54** # **824**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
These are duplicated with line number 49 and 50.

SuggestedRemedy
remove line number 53 and 54.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.3.1** *P* **159** *L* **7** # **4**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Undefined subclause.

SuggestedRemedy
Delete 58.3.3.1

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.3.3.1** *P* **159** *L* **7** # **828**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
This subcluse may be omitted.

SuggestedRemedy
Remove this subcluse 58.3.3.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.3.2** *P* **159** *L* **11** # **829**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
This subcluse may be omitted.

SuggestedRemedy
Remove this subcluse 58.3.3.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.3.2** *P* **159** *L* **13** # **5**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Undefined subclause.

SuggestedRemedy
Delete 58.3.3.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.3.4** *P* **159** *L* **15** # **825**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
The content of this subclause is PMD receive function(58.3.3).

SuggestedRemedy
change 58.3.4 to 58.3.3.1.
change 58.3.4.1 to 58.3.3.1.1
change 58.3.4.2 to 58.3.3.1.2

Proposed Response *Response Status* **W**
PROPOSED REJECT. This is consistant with other clauses

Cl **58** *SC* **58.3.4.1** *P* **159** *L* **24** # **386**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "Table 58-5 and Table 58-7" into "Table 58-4".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.1** *P* **159** *L* **24** # **831**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
Wrong reference and only Table 58-4 is sufficient.

SuggestedRemedy
Replace "Table 58-5 and Table 58-7" with Table 58-4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.1** *P* **159** *L* **24** # **1158**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Need to spell out what table applies to what PMD type.

SuggestedRemedy
Change to read:
... in Table 58-5 and Table 58-7 for 1000BASE-PX10 and 1000BASE-PX20, respectively.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.2** *P* **159** *L* **28** # **258**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **T** *Comment Status* **D**
The signal detect (SD) function for the burst mode upstream signal can be realized in either PMD layer or PMA layer. To select either PMD layer or PMA layer is optional.

SuggestedRemedy
Insert a comment, "The signal detect function in OLT should be realized in PMD layer or PMA layer," into Subclause 58.3.4.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Change will be made as appropriate. Exact text will be discussed at the meeting

Cl **58** *SC* **58.3.4.2** *P* **159** *L* **30** # **1159**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Spelling mistake and need to list port types that apply to each table.

SuggestedRemedy
Change 'fulfil' to 'fulfill'. In second paragraph, change 1000BASE-PX to be '1000BASE-PX10 and 1000BASE-PX20, respectively'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.2** *P* **159** *L* **34** # **832**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
Wrong reference and only Table 58-4 is sufficient.

SuggestedRemedy
Replace "Table 58-4 and Table 58-6" with Table 58-4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.2** *P* **159** *L* **34** # **387**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "Table 58-4 and Table 58-6" into "Table 58-4".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.3** *P* **159** *L* **37** # **826**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
The content of this subclause is described in 58.3.4.1 and 58.3.4.2.

SuggestedRemedy
Remove this subclause 58.3.4.3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.4.3** *P* **159** *L* **40** # **1160**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.5** *P* **159** *L* **41** # **827**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
The content of this subclause is PMD transmit function(58.3.2).

SuggestedRemedy
Change 58.3.5 to 58.3.2.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.3.5** *P* **159** *L* **44** # **1161**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Change 'asserted (logic level = 1)' to be 'set to 1'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at meeting

Cl **58** *SC* **58.4** *P* **159** *L* **47** # **1162**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Keep 1000BASE-PX10-U on one line.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **159** *L* **51** # **388**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "Table 58-6" into "Table 58-18".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **159** *L* **51** # **259**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **E** *Comment Status* **D** *Attn*
Refered Subclause 58.10.3 is not approriate.

SuggestedRemedy
Change "58.10.3" to "58.10.2"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **58** *SC* **58.4** *P* **159** *L* **54** # **1163**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'for type PX10' to 'for 1000BASE-PX10'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **160** *L* **1** # **830**
Hyun-Kyun Choi ETRI

Comment Type **E** *Comment Status* **D**
The content of Table 58-4 is the definition of both OLT and ONU.

SuggestedRemedy
Change "OLT" to "OLT/ONU".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **160** *L* **18** # **1164**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Change note to read 'NOTE - The specifications for OMA have been derived from extinction ratio and average launch power (min) or receiver sensitivity (max). The calculation is defined in 60.8.6.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **162** *L* **30** # **1169**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 58-6 shows '/ nm' in the table heading.

SuggestedRemedy
Change to be '(nm)'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4** *P* **162** *L* **4** # **1168**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 58-3 needs to be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. It already is

Cl **58** *SC* **58.4** *P* **162** *L* **52** # **1170**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Footnote a states information already stipulated.

SuggestedRemedy
Delete first two sentences of footnote a.

Proposed Response *Response Status* **W**
PROPOSED REJECT. This footnote was added by a previous comment and is believed to provide useful information at this point

Cl **58** *SC* **58.4** *P* **163** *L* **23** # **1171**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 58-7 is missing a footnote assignment and one footnote has redundant information.

SuggestedRemedy
In footnote a, delete 'not mandatory'. Assign footnote b to Vertical eye-closure penalty (min).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comment, 726. Consistent across clauses

Cl **58** *SC* **58.4.1** *P* **160** *L* **23** # **1165**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'transmitter' should be plural.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4.1** *P* **161** *L* **31** # **487**
Khermosh, Lior Passave

Comment Type **E** *Comment Status* **D**
Reference of epsilon subclause is to 58.8.1 and should be 58.8.2

SuggestedRemedy
change 58.8.1 to 58.8.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4.1** *P* **161** *L* **31** # **390**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "58.8.1" into "58.8.2".
Also page162 line 53, page 164 line 48, page 165 line 40 and page 168 line 4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4.1** *P* **161** *L* **31** # **7**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Harmonize with Clause 59.

SuggestedRemedy
Reword the last sentence to read: "The values in bold are normative, the others informative."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.4.1** *P* **161** *L* **6** # **6**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incomplete transmit characteristics table

SuggestedRemedy
In Table 58-5, replace "tbd" with correct values (5 places).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. See related comments

Cl **58** *SC* **58.4.2** *P* **163** *L* **11** # **389**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Damage threshold is defined variously.
CL58: Transmitter output power
CL59: No definition
CL60: Average received poewer + 1dB
Damage threshold for 3 PMDs should be defined based on collective view.
And damege threshold for 1000BASE-PX10/20 is exessive. Because received power MUST be below transmitter launch power minus channel insertion loss.

SuggestedRemedy
Delete the damege threshold line.
OR
Modify damage threshold into average received power +1dB.

Proposed Response *Response Status* **W**
PROPOSED REJECT. The damage threshold for PONs reflects the fact that a minimum insertion loss is required in the link and if the link is assembled without this loss, the Rx will see this optical power, not the Rx max received power

Cl **58** *SC* **58.4.2** *P* **163** *L* **16** # **804**
Onishi, Kazumi OF Networks

Comment Type **E** *Comment Status* **D**
In table58-7 and table58-10, the Signal Detect Threshold values are typos.

SuggestedRemedy
Signal Detect Threshold(min) are:
1000BASE-PX10-D=-45dBm, 1000BASE-PX10-U=-44dBm in table58-7
1000BASE-PX20-D=-45dBm, 1000BASE-PX20-U=-44dBm in table58-10

Proposed Response *Response Status* **W**
PROPOSED REJECT. This was the decision of the last meeting

Cl **58** *SC* **58.4.2** *P* **163** *L* **20** # **9**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incomplete receive characteristics.

SuggestedRemedy
In Table 58-7, add values for stressed receive sensitivity (2 places), vertical eye closure (2 places) and sinusoidal jetter limits (2 places).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comments

Cl **58** *SC* **58.4.2** *P* **163** *L* **21** # **764**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for stressed Rx sens.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Exact values will be discussed at the meeting.

Cl **58** *SC* **58.4.2** *P* **163** *L* **23** # **765**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for VECP.

SuggestedRemedy
Maybe 1.2 and 2.2 dB?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.4.2** *P* **163** *L* **27** # **766**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for stressed eye jitter

SuggestedRemedy
Start with 0.25 UI pk-pk.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.4.2** *P* **163** *L* **31** # **767**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need SJ limits.

SuggestedRemedy
0.05, 0.15 UI downstream. Suggest 0.05, 0.15 UI upstream.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.4.2** *P* **163** *L* **31** # **10**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Verify units for sinusoidal jitter limit.

SuggestedRemedy
Should units be kHz as denoted or UI as in Clause 60?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Will change to UI

Cl **58** *SC* **58.5** *P* **161** *L* **47** # **1166**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
1000BASE-PX20-U should be on one line.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5** *P* **161** *L* **51** # **260**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **E** *Comment Status* **D**
Refered Subclause 58.10.3 is not approriate.

SuggestedRemedy
Change "58.10.3" to "58.10.2"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **58** *SC* **58.5** *P* **161** *L* **54** # **1167**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 'for PX20' to be 'for 1000BASE-PX20'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5** *P* **162** *L* **50** # **8**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Extra row in Table.

SuggestedRemedy
Delete extra row.

Proposed Response *Response Status* **W**
PROPOSED REJECT. Intended to act as separator between PMD types

Cl **58** *SC* **58.5** *P* **163** *L* **38** # **1172**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete 'In this subclause and 58.4,' from the NOTE.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5** *P* **165** *L* **11** # **1173**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'/ nm' used in Table 58-9 heading.

SuggestedRemedy
Change to be '(nm)'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5** *P* **165** *L* **40** # **1174**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote for Table 58-9 needs to be un-bold and first two sentences should be deleted.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comment

Cl **58** *SC* **58.5** *P* **166** *L* **1** # **1177**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 58-4 needs to be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Already is

Cl **58** *SC* **58.5** *P* **166** *L* **28** # **1178**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change orphan settings on Table 58-10 to put on one page.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **58** *SC* **58.5** *P* **167** *L* **16** # **1179**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
In Table 58-10, add footnote b to Vertical eye-closure and delete 'not mandatory' from footnote a.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5.1** *P* **164** *L* **23** # **11**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incomplete transmit characteristics table.

SuggestedRemedy
In Table 58-5, replace "tbd" with correct values (5 places).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comments

Cl **58** *SC* **58.5.1** *P* **164** *L* **49** # **489**
Khermosh, Lior Passave

Comment Type **E** *Comment Status* **D**
Reference of epsilon subclause is to 58.8.1 and should be 58.8.2

SuggestedRemedy
change 58.8.1 to 58.8.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5.1** *P* **165** *L* **36** # **12**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Extra row in Table.

SuggestedRemedy
Delete extra row in Table 58-9.

Proposed Response *Response Status* **W**
PROPOSED REJECT. See related comment

Cl **58** *SC* **58.5.1** *P* **165** *L* **40** # **13**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Table footnote is boldface.

SuggestedRemedy
In Table 58-9, make footnote plain text.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.5.2** *P* **167** *L* **13** # **17**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incomplete receive characteristics.

SuggestedRemedy
In Table 58-10, add values for stressed receiver sensitivity (2 places), vertical eye closure (2 places) and sinusoidal jitter limits (2 places).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comments

Cl **58** *SC* **58.5.2** *P* **167** *L* **14** # **770**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for stressed Rx sens.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.5.2** *P* **167** *L* **16** # **771**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for VECP.

SuggestedRemedy
Maybe 2.2 and 1.5 dB?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.5.2** *P* **167** *L* **21** # **772**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need value for stressed eye jitter

SuggestedRemedy
Start with 0.28, 0.25 UI pk-pk.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.5.2** *P* **167** *L* **24** # **773**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need SJ limits.

SuggestedRemedy
0.05, 0.15 UI downstream. Suggest 0.05, 0.15 UI upstream.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.5/2** *P* **167** *L* **24** # **18**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Verify units.

SuggestedRemedy
Are the units for sinusoidal jitter limits kHz as denoted in Table 58-10 or UI as denoted in Clause 60?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be changed to UI

Cl **58** *SC* **58.58.4.1** *P* **161** *L* **20** # **762**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Set limits for TDP.

SuggestedRemedy
D: 1.3 U: 2.8 dB ?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.58.4.1** *P* **161** *L* **6** # **761**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Set limit for RINxOMA

SuggestedRemedy
In range -110 to -120 dB/Hz.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.58.5.1** *P* **164** *L* **23** # **768**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Set limit for RINxOMA

SuggestedRemedy
In range -110 to -120 dB/Hz.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.58.5.1** *P* **164** *L* **36** # **769**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Set limits for TDP.

SuggestedRemedy
D: 2.3 U: 2.8 dB ?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.6** *P* **163** *L* **31** # **392**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Table 58-11 shows illustrave channel insertion loss and penalties.
In this table, measurement wavelength for fiber is different from the nominal transmit wave length. There is a tacit understanding that the channel loss of 1490nm is the same as that of 1550nm.

SuggestedRemedy
Add nominal tranmit wavelength to Table 58-11 to be obvious.

Proposed Response *Response Status* **W**
PROPOSED REJECT. The current method of identifying measurement and nominal wavelength has been discussed in several meetings and agreed upon.

Cl **58** *SC* **58.6** *P* **163** *L* **54** # **391**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

SuggestedRemedy
Modify "Table 58-14" into "Table 58-11".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.6** *P* **165** *L* **51** # **1175**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Delete word 'Illustrative'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. 'Illustrative' reflects the function of this table

Cl **58** *SC* **58.6** *P* **165** *L* **51** # **14**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Incorrect Subclause title.

SuggestedRemedy
Replace "...link power budgets..." with "...channels and penalties..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Consistent across clauses

Cl **58** *SC* **58.6** *P* **165** *L* **54** # **1176**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Change sentence to read 'Link power budgets for 1000BASE-PX10 and 1000BASE-PX20 channels are shown in Table 58-11.'

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. See previous comment

Cl **58** *SC* **58.6** *P* **165** *L* **54** # **16**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Missing note.

SuggestedRemedy
Add note to end of text to read: " Note - The budgets include an allowance for -12 dB reflection at the receiver."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be changed

Cl **58** *SC* **58.6** *P* **165** *L* **54** # **15**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incorrect reference.

SuggestedRemedy
Replace reference to Table 58-14 with reference to Table 58-11.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Change will be made

Cl **58** *SC* **58.6** *P* **167** *L* **31** # **1346**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change Table 58-11 title to be '1000BASE-PX10 and 1000BASE-PX20 link power budget (informative)'

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. See previous comments

Cl **58** *SC* **58.7** *P* **168** *L* **15** # **19**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **D**
Incomplete jitter tables

SuggestedRemedy
Add correct values to Tables 58-12 and 58-13.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See related comments

Cl **58** *SC* **58.7** *P* **168** *L* **6** # **774**

Dawe, Piers Agilent

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

These tables are informative so should not be gating items but let's keep working at them

SuggestedRemedy

Downstream DJ at TP2: 0.25 UI

Upstream DJ and TJ at TP1: try 0.05 (or less) UI more than downstream.

Upstream DJ at TP2 and TP3: same as each other.

Upstream TJ at TP4: 0.75 UI.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.7** *P* **168** *L* **8** # **1347**

Booth, Brad Intel

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

Change first sentence to read 'Table 58-12 and Table 58-13 represent downstream and upstream, respectively, high-frequency jitter budgets (above 637 kHz) and...'

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT. Ensure consistency across clauses

Cl **58** *SC* **58.8** *P* **168** *L* **53** # **1348**

Booth, Brad Intel

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

Comma placement.

SuggestedRemedy

Place a comma after 'measurements', delete comma after 'except' and after 'cable'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.8** *P* **169** *L* **3** # **655**

Lynskey, Eric UNH-IOL

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

This is a comment on the editor's note. The note states that links with FEC are to be tested to a BER of 10^-4. However, it also states that the note will be removed prior to final publication. If FEC links are to be tested under different conditions than non-FEC links, then it needs to be explicitly stated that FEC links shall be tested in this manner. This does bring about the rather difficult issue of possibly defining separate FEC and non-FEC cases for all of the defined tests, which is an undesirable situation. It needs to be decided which tests need to be tested differently for FEC and non-FEC links. Finally, perhaps some text describing how the link is degraded to 10^-4 BER is necessary. Can this really be done using an attenuator? The noise environment described in Clause 65.2.1 talks about an MPN limited link using multi-longitudinal mode lasers, and this cannot be properly 'simulated' using just an attenuator. This comment is being submitted as a placeholder because I do not have the solutions nor a remedy for this at this point in time, but the issue does need to be discussed in front of the group.

SuggestedRemedy

Discuss during breakouts.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. This issue has been identified on the reflector and conference call discussions. People have been identified who are working on these points and there will be discussion thereof at the meeting

Cl **58** *SC* **58.8** *P* **196** *L* **6** # **779**

Dawe, Piers Agilent

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

These tables are informative so should not be gating items but let's keep working at them.

SuggestedRemedy

DJ at TP2: 0.25 UI

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **58** *SC* **58.8.1** *P* **169** *L* **34** # **393**
TSUJI, SHINJI SUMITOMO ELECTRIC

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

There are hexadecimal numders for test patterns in Table 58-15, 58-16 and 58-17.
However PMD input data from PMA is 8B10B encoded.

SuggestedRemedy

Include the word "8B10B" somewhere.
For example, add footnote "8B10B converted data is used for PMD."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact wording will be discussed at meeting

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Cl **58** *SC* **58.8.1** *P* **170** *L* **13** # **403**
Radcliffe, Jerry Hatteras Networks

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

Table 58-15 needs to be modified. In order for the test patterns to work properly the running disparity from the 32 byte "First portion of MAC Client Data" should be positive.

SuggestedRemedy

Add a footnote to Table 58-15. Suggested text "The running disparity exiting the first portion of the MAC client data shall be positive"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Change will be made. Exact text will be discussed at the meeting

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Cl **58** *SC* **58.8.1.1** *P* **169** *L* **33** # **401**
Radcliffe, Jerry Hatteras Networks

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

This is a single level 4 header below the 58.8.1 level three header. It should be removed.

SuggestedRemedy

Remove the header.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.8.1.1** *P* **169** *L* **39** # **1349**
Booth, Brad Intel

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

Need to start second sentence with an uppercase letter. Append 3rd paragraph to second paragraph.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.8.10** *P* **172** *L* **47** # **495**
Khermosh, Lior Passave

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

ref 59.8.13 does no exist in the draft.

SuggestedRemedy

ref 38.6.11 ?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. 59.9.14

Cl **58** *SC* **58.8.10** *P* **172** *L* **47** # **265**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

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

"*ref*59.8.13" is not appropriate.
In this case, "*ref*59.8.11(Stressed Reciever conformance test"should be refered.

SuggestedRemedy

Change "*ref*59.8.13" to "*ref*59.8.11".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. 59.9.14

Cl **58** *SC* **58.8.10** *P* **172** *L* **49** # **494**
Khermosh, Lior Passave

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

Receiver sensitivity for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4. The specific line in the test is in clause 60 - 60.8.10 in p. 234 l.44

SuggestedRemedy

Add the following text:
Receiver sensitivity for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text to be discussed at the meeting

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Cl **58** *SC* **58.8.11** *P* **173** *L* **3** # **496**
Khermosh, Lior Passave

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

Stressed Receiver sensitivity for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4. The specific line in the test is in clause 60 - 60.8.11 in p. 235 l.11

SuggestedRemedy

Add the following text:
Stressed Receiver sensitivity for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text to be discussed at the meeting

---

Cl **58** *SC* **58.8.13** *P* **173** *L* # **184**
Yajima, Yusuke Hitachi Communication

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

The relations between parameters such as T(Laser On), T(Laser Off), T(AGC), mentioned in 58.8.13 and parameters such as T(on), T(off), T_Optical_rec_recovery specified in Table 58-5, 58-7, 58-8, 58-10 are not clear.

SuggestedRemedy

Clarify the relations or unify the names of parameters.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. This text has been appended and will be discussed at the meeting

---

Cl **58** *SC* **58.8.13** *P* **173** *L* **1** # **485**
Khermosh, Lior Passave

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

Measurements specifications for PON timing - laser on/off time and receiver settling time.

SuggestedRemedy

The attached file "58.8.13_test-rem3.pdf" contains definitions of the parameters and test specifications. The text should replace the text in 58.8.13. CDR lock time measurement are moved to section 65.3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Text will be discussed at the meeting

---

Cl **58** *SC* **58.8.13** *P* **173** *L* **10** # **1356**
Booth, Brad Intel

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

Title should read 'Other measurements'.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.8.13.1** *P* **173** *L* **41** # **805**
Onishi, Kazumi OF Networks

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

The term "TX_disable" does not hermonize with the term "tx_enable" described in 58.1.4.3.

SuggestedRemedy

The term "TX_disable" should be replaced with "tx_enable" in the body and table58-6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

---

Cl **58** *SC* **58.8.13.1.1** *P* **173** *L* **18** # **1357**
Booth, Brad Intel

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

Figure needs to be in FrameMaker format.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.8.13.1.1** *P* **173** *L* **43** # **396**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **E** *Comment Status* **D**
The use of Multi mode fiber is not supposed. CPR is not necessary.

SuggestedRemedy
Delete "its specified CPR,".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.13.1.1** *P* **173** *L* **50** # **397**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Tlaser_off
For the change from Average launch power to -45dBm(Average lainch power of off transmitter), these 3 values are very similar.
-44dBm 0.0000398mW
-45dBm+10% ... 0.0000348mW
-45dBm 0.0000316mW
(-1dBm ..... 0.794mW)
To simplify, 10% or +/-1dB should be deleted.

SuggestedRemedy
Mofify "(10%, or within +/-1dB) above its Average launch power of off transmitter" into "its Average launch power of off transmitter".

Proposed Response *Response Status* **W**
PROPOSED REJECT. The 10% limit is in keeping with the spirit of the timing definitions and allows a faster laser_off time without compromising system performance

Cl **58** *SC* **58.8.13.1.1** *P* **173** *L* **51** # **395**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Concerning the definiton of Tlaser_on, optical signal power of 90% and +/-1dB(125%/80%) are different.

SuggestedRemedy
Select 90% or +/-1dB.
I think 90% is better.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Exact definition will be discussed at the meeting

Cl **58** *SC* **58.8.13.2.1** *P* **174** *L* **5** # **398**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **E** *Comment Status* **D**
Are TAGC_lock and TAGC in Figure 58-6 same?
It is unclear, the relation between TAGC_lock and "receiver recovery time and level recovery time" in page 153 line 16.

SuggestedRemedy
Use receiver recovery time and level recovery time in Figure 58-6 and 58.8.13.2.1.
OR
Add an explanation of the relationship between TAGC, TAGC_lock and "receiver recovery time and level recovery time".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. This text has been appended and will be discussed at the meeting. It is unclear what is meant by the relationship between the two

Cl **58** *SC* **58.8.2** *P* **170** *L* **46** # **1350**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Notes should conform to IEEE style guide.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.2** *P* **171** *L* **1** # **414**
Yanagisawa, Hiroki NEC Corporation

Comment Type **T** *Comment Status* **D**
It is not clear how much chromatic dispersion penalty is expected with epsilon value of 0.10 for 1000BASE-PX20.

SuggestedRemedy
Clarify the chromatic dispersion penalty for epsilon value of 0.10 in SC 58.8.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. The intention of the included text was to represent the limits of chromatic dispersion penatty for the given epsilon values and the budget allocations incorporate this loss and other transmission penalties. It is not the intent to specify the exact chromatic penalty. The text will be examined and perhaps clarified

Cl **58** *SC* **58.8.4** *P* **171** *L* **14** # **394**
TSUJI, SHINJI SUMITOMO ELECTRIC

Comment Type **T** *Comment Status* **D**
Extinction ratio test pattern is any valid 8B/10B encoded signal in Table 58-14. Extinction ratio is defined with a repeating idle pattern I2 in 58.8.4.

SuggestedRemedy
Need to clearify.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. It is agreed that there is a discrepancy and this will be discussed at the meeting

Cl **58** *SC* **58.8.4** *P* **171** *L* **15** # **1351**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Add reference '(defined in Clause 36)' after '... idle pattern I2...'. Delete last sentence of the paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. This was agreed upon at the last meeting. Function is to make life easier for the reader

Cl **58** *SC* **58.8.6** *P* **171** *L* **25** # **1352**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 2nd and 3rd sentences to flow better.

SuggestedRemedy
Change to read:
Clause 60 provides information on how OMA, extinction ratio and mean power are related to each other (see 60.8.6).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.8** *P* **171** *L* **45** # **1353**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Is equation in Equation format? Equation number should be inside parantheses.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Already is

Cl **58** *SC* **58.8.8** *P* **171** *L* **45** # **20**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **D**
Harmonize equation numbering.

SuggestedRemedy
Equation number "58-2" should read "(58-2)"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.8** *P* **171** *L* **53** # **1354**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Check that all notes in the document conform to the IEEE style guide (i.e. Note format is applied).

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.9** *P* **172** *L* **38** # **1355**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Abbreviation can be used.

SuggestedRemedy
Change 'transmitter and dispersion penalty (TDP)' to be 'TDP'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **58.8.9** *P* **172** *L* **39** # **493**

Khermosh, Lior — Passave

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

TDP for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4. The specific line in the test is in clause 60 - 60.8.9.4 section b in p. 234

SuggestedRemedy

Add the following text:
TDP for an non-FEC system are tested to a BER of 1e-12 and for FEC enabled systems to a BER of 1e-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text will be discussed at the meeting

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Cl **58** *SC* **58.9.5** *P* **174** *L* **53** # **1358**

Booth, Brad — Intel

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

1000BASE-PX10-U should be on one line.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **58.9.9** *P* **190** *L* # **99107**

Diab, Wael William — Cisco Systems

Comment Type **TR** *Comment Status* **A** *D1.1 #695*

TDP is the appropriate method for evaluating PMDs. Nonetheless, given the speed of these PMDs and the short-term desire to implement solutions (as expressed in the original proposal presentations), an informative that relates traditional measurement techniques to TDP may help bridge the gap.

SuggestedRemedy

Specify an informative correlation between the TDP measurements and the eye mask and/or the jitter numbers

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Needs more work by the ad-hoc & look at a jitter numbes for TP1/TP2/TP3.

Cl **58** *SC* **8** *P* **173** *L* **21** # **812**

van Veen, Dora — Lucent Technologies

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

The definition of the byte align time is missing.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT. The PMD does not split bit and byte align time

---

Cl **58** *SC* **Table 58-10** *P* **166** *L* **35** # **409**

Yanagisawa, Hiroki — NEC Corporation

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

Damage threshold (max) spec will exceed the input current maximum rating of ordinary devices such as LSI and PD chip. This spec will force the receiver to use undesirably expensive devices.

SuggestedRemedy

Delete "Damage threshold (max)".

Proposed Response *Response Status* **W**

PROPOSED REJECT. See related comment

Cl **58** *SC* **Table 58-10** *P* **167** *L* **11** # **413**

Yanagisawa, Hiroki — NEC Corporation

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

It is not clear why to change Receiver reflectance to -12 dB. To avoid influence of multiple reflectance in P2MP system, the spec should be -20 dB.

SuggestedRemedy

Change Receiver reflectance from -12 dB to -20 dB.

Proposed Response *Response Status* **W**

PROPOSED REJECT. This issue was discussed at the last meeting. It was felt that reducing the value to -12 dB does not compromise system performance and allows wider PMD design possibilities. The value is also consistant across the clauses

Cl **58** *SC* **Table 58-10** *P* **167** *L* **30** # **500**

Khermosh, Lior Passave

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

Add BER reference point for FEC and non-FEC systems

SuggestedRemedy

Add the following text:

Note: Non-FEC systems are tested to a BER of 1e-12 and FEC enabled systems to a BER of 1e-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text will be discussed at the meeting

Cl **58** *SC* **Table 58-11** *P* **168** *L* **4** # **491**

Khermosh, Lior Passave

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

Reference of epsilon subclause is to 58.8.1 and should be 58.8.2

SuggestedRemedy

change 58.8.1 to 58.8.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table 58-13** *P* **168** *L* **32** # **291**

Hirth, Ryan Terawave Communica

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

Similar bug #XXX filed for clause 64.

Definition of the clocking scheme must be defined and added. This was not closed in the last meeting. There were two methods proposed: loop timing and independent upstream.

Loop timing uses the recovered receive clock to clock the upstream data. This will greatly reduce the guard time at the OLT since all ONU will operate on the same time base. Jitter transfer must be defined if this method is used.

Independent upstream timing use a local oscillator to transmit upstream. This breaks any clocking dependencies and is more resilient when the receive clock is lost. The PPM difference between a oscillators may be up to 200ppm which must be compensated for in the guard time.

SuggestedRemedy

The ONU shall transmit with an independent oscillator of +/-100pm. The ONU MPCP timers shall operate off of the recovered clock.

Use of an independent oscillator will eliminate the jitter transfer. This will decrease the timing jitter in the upstream thus increasing the horizontal UI on the OLTs receiver. This will help increase the performance of the OLTs receiver (which is one of the most critical components in a PON system).

In order to prevent the increase in guard time which results from independent oscillators, the local_time, grant_window_timer, and grant_start_timers shall operate off of the recovered receive clock at the ONU. This will maintain the time reference at the OLT.

The upstream jitter budget should be based on a local oscillator similar to the downstream.

This solution provide the best of both worlds, no jitter transfer and no increase in guard time.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. There has been some discussion of this issue on the reflector at telephone conferences. The mood of the group was tending towards loop timing. Your suggestion will be taken into account at the meeting and discussed with the protocol group

Cl **58** *SC* **Table 58-4** *P* **160** *L* # **107**

ISHII, RYUJI Hitachi Communication

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

The table title of Table 58-4 is incorrect.

SuggestedRemedy

Modify "OLT PX" to "1000BASE-PX".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table 58-5** *P* **160** *L* **37** # **416**

Yanagisawa, Hiroki NEC Corporation

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

It is not good idea to increase launced power by 1 dB to compensate the sensitivity degradation induced by adopting ER of 6 dB, because it will result in undesirable cost-up of optics. It is not clear why ER should be 6 dB. Transmitter in 1000BASE-PX will not be affected by baseline wander due to unbalanced patterns like 4B/5B, because it employs 8B/10B coding. It will be cheaper for any transmitters to keep ER > 9 dB than to increase launced power by 1 dB.

SuggestedRemedy

keep D1.3 power budgets as follows and change ER from 6 dB to 9 dB.

Launced power
1000BASE-PX10-D: -3 to +2 dBm -> -4 to +1 dBm
1000BASE-PX10-U: -1 to +4 dBm -> -2 to +3 dBm

Receive power max
1000BASE-PX10-D: -1 dBm -> -2 dBm
1000BASE-PX10-U: -5 dBm -> -4 dBm

Receive sensitivity
1000BASE-PX10-D: -24 dBm -> -25 dBm
1000BASE-PX10-U: -24 dBm -> -25 dBm

Proposed Response *Response Status* **W**

PROPOSED REJECT. These points were discussed at previous meetings and it was felt that the current configuration reflects the most cost effective set of values

Cl **58** *SC* **Table 58-5** *P* **161** *L* **19** # **410**

Yanagisawa, Hiroki NEC Corporation

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

It is not meaningful to specify Transmitter reflectance for downstream. Because there will not be a risk of multiple reflectance in the downstream direction unlike upstream.

SuggestedRemedy

Delete "Transmitter reflectance (max)" from 1000BASE-PX10-D.

Proposed Response *Response Status* **W**

PROPOSED REJECT. It is agreed that multiple reflections are less likely in this configuration, however, this value is consistant with PMDs across the document

Cl **58** *SC* **Table 58-6** *P* **162** *L* **33** # **381**

Yokomoto, Tetsuya FUJITSU ACCESS LIMI

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

At Center Wavelength=1260nm, it is wrong that RMS spectral width is 1.90nm.
The correct value computed from the formula of 58-1 is 2.09nm.

SuggestedRemedy

Change "1.90nm" to "2.09nm"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Thisis more than an editorial comment. The value will be checked and changed if appropriate

Cl **58** *SC* **Table 58-6** *P* **162** *L* **53** # **488**

Khermosh, Lior Passave

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

Reference of epsilon subclause is to 58.8.1 and should be 58.8.2

SuggestedRemedy

change 58.8.1 to 58.8.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table 58-7** *P* **163** *L* **10** # **408**
Yanagisawa, Hiroki NEC Corporation

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

Damage threshold (max) spec will exceed the input current maximum rating of ordinary devices such as LSI and PD chip. This spec will force the receiver to use undesirably expensive devices.

SuggestedRemedy

Delete "Damage threshold (max)".

Proposed Response *Response Status* **W**

PROPOSED REJECT. See related comments

Cl **58** *SC* **Table 58-7** *P* **163** *L* **18** # **412**
Yanagisawa, Hiroki NEC Corporation

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

It is not clear why to change Receiver reflectance to -12 dB. To avoid influence of multiple reflectance in P2MP system, the spec should be -20 dB.

SuggestedRemedy

Change Receiver reflectance from -12 dB to -20 dB.

Proposed Response *Response Status* **W**

PROPOSED REJECT. See related comment

Cl **58** *SC* **Table 58-7** *P* **163** *L* **40** # **499**
Khermosh, Lior Passave

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

Add BER reference point for FEC and non-FEC systems

SuggestedRemedy

Add the following text:
Note: Non-FEC systems are tested to a BER of 1e-12 and FEC enabled systems to a BER of 1e-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. Exact text will be discussed at the meeting

Cl **58** *SC* **Table 58-7** *P* **163** *L* **5** # **382**
Yokomoto, Tetsuya FUJITSU ACCESS LIMI

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

Signal speed (range) of "1.25+/-100ppm[GBd]" is already accepted with the value in comment #466.

SuggestedRemedy

Regarding 1000BASE-PX10-D and 1000BASE-PX10-U,change "1.25+/-TBDppm[GBd]" to "1.25+/-100ppm[GBd]" .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table 58-7,58-10** *P* **163166167** *L* # **380**
Yokomoto, Tetsuya FUJITSU ACCESS LIMI

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

Power definition is not clear: in "Average" and "Peak."

SuggestedRemedy

Power definition should clearly be described in "Average" or "Peak".

Proposed Response *Response Status* **W**

PROPOSED REJECT. This wording is consistent with the Tx definitions, where they originate. It is also unclear to the editor the meaning of peak in this context

Cl **58** *SC* **Table 58-8** *P* **164** *L* **17** # **417**
Yanagisawa, Hiroki NEC Corporation

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

It is not good idea to increase launced power by 1 dB to compensate the sensitivity degradation induced by adopting ER of 6 dB, because it will result in undesirable cost-up of optics. It is not clear why ER should be 6 dB. Transmitter in 1000BASE-PX will not be affected by baseline wander due to unbalanced patterns like 4B/5B, because it employs 8B/10B coding. It will be cheaper for any transmitters to keep ER > 9 dB than to increase launced power by 1 dB.

SuggestedRemedy

keep D1.3 power budgets as follows and change ER from 6 dB to 9 dB.

Launced power
1000BASE-PX20-D: +2 to +7 dBm -> +1 to +6 dBm
1000BASE-PX20-U: -1 to +4 dBm -> -2 to +3 dBm

Receive power max
1000BASE-PX20-D: -6 dBm -> -7 dBm
1000BASE-PX20-U: -3 dBm -> -4 dBm

Receive sensitivity
1000BASE-PX20-D: -27 dBm -> -28 dBm
1000BASE-PX20-U: -24 dBm -> -25 dBm

Proposed Response *Response Status* **W**

PROPOSED REJECT. See related comment

Cl **58** *SC* **Table 58-8** *P* **164** *L* **35** # **411**
Yanagisawa, Hiroki NEC Corporation

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

It is not meaningful to specify Transmitter reflectance for downstream. Because there will not be a risk of multiple reflectance in the downstream direction unlike upstream.

SuggestedRemedy

Delete "Transmitter reflectance (max)" from 1000BASE-PX20-D.

Proposed Response *Response Status* **W**

PROPOSED REJECT. See related comment

Cl **58** *SC* **Table 58-9** *P* **165** *L* **11** # **415**
Yanagisawa, Hiroki NEC Corporation

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

There is a discrepancy in informative epsilon value between the right column in Table58-9 (that is 0.115) and Figure 58-4 (that is 0.10).

SuggestedRemedy

Modify the epsilon value in the right column in Table58-9 from 0.115 to 0.10.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. This is more than an editorial comment. Values will be checked and changed if appropriate

Cl **58** *SC* **Table 58-9** *P* **165** *L* **41** # **490**
Khermosh, Lior Passave

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

Reference of epsilon subclause is to 58.8.1 and should be 58.8.2

SuggestedRemedy

change 58.8.1 to 58.8.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table58-10** *P* **167** *L* **16** # **263**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

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

"Vertical eye-closure penalty(min)" is related to note b.
Note b should be refered in "Vertical eye-closure penalty(min)."

SuggestedRemedy

Change "Vertical eye-closure penalty(min)" to "Vertical eye-closure penalty(min) b."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table58-10** *P* **167** *L* **20** # **264**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

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

"Stressed eye jitter(min)" is related to note b.
Note b should be refered in "Stressed eye jitter(min)."

SuggestedRemedy

Change "Stressed eye jitter(min)" to "Stressed eye jitter(min) b".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **58** *SC* **Table58-7** *P* **163** *L* **23** # **261**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **E** *Comment Status* **D**
"Vertical eye-closure penalty(min)" is related to note b.
Note b should be refered in "Vertical eye-closure penalty(min)."

SuggestedRemedy
Change "Vertical eye-closure penalty(min)" to"Vertical eye-closure penalty(min) b".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **Table58-7** *P* **163** *L* **27** # **262**
KOMIYA, TAKESHI MITSUBISHI ELECTRIC

Comment Type **E** *Comment Status* **D**
"Stressed eye jitter(min)" is related to note b.
Note b should be refered in "Stressed eye jitter(min)."

SuggestedRemedy
Change "Stressed eye jitter(min)" to "Stressed eye jitter(min) b".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **58** *SC* **Table58-7,58-10** *P* **163** *L* # **108**
ISHII, RYUJI Hitachi Communication

Comment Type **T** *Comment Status* **D**
"Damage Threshold" in Table 58-7(p163) and 58-10(p166) is unnecesary.
Because "Mimimum channel insertion loss" is specified clearly and the maximum optical input power to ONU or OLT is equal to "Average receive power(max)", under normal operating condition, there is no case that the optical input power exceed "Average receive power(max)".
This should be specified by each maker in considaration of the absolute maximum ratings of devices used, for example PD, pre-amplifier, etc..

SuggestedRemedy
Delete "Damage Threshold".

Proposed Response *Response Status* **W**
PROPOSED REJECT. See related comment

Cl **59** *SC* **59** *P* **183** *L* **12** # **784**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Note 6 says "Table 59–6 may be replaced by a set of curves at final publication". It would be preferable to stay as we are: with a table illustrated by curves

SuggestedRemedy
Delete the note.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1** *P* **184** *L* **1** # **781**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Add text explaining when 1000BASE-LX and 1000BASE-LX10 are interoperable.

SuggestedRemedy
Per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. At line 41, insert new paragraph: "1000BASE-LX10 is interoperable with 1000BASE-LX (see clause 38). If used on single mode fiber, operation is not ensured by this standard beyond the reach given in Table 38-6

Cl **59** *SC* **59.1** *P* **184** *L* **11** # **1370**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Last sentence of 2nd paragraph is missing a period.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1** *P* **184** *L* **3** # **1369**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
First paragraph is confusing.

SuggestedRemedy
Change to read:
The 1000BASE-LX10 and 1000BASE-BX10 PMD sublayers provide point-to-point (P2P) 1000BASE-X connections over a pair of fibers or a single fiber, respectively, up to 10 km.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1** *P* **184** *L* **36** # **554**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Switch places on 1000BASE-BX10-U and 1000BASE-BX10-D since -D always comes before -U in the rest of the paragraph (and throughout the whole clause).

SuggestedRemedy
Switch places on 1000BASE-BX10-U and 1000BASE-BX10-D

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1** *P* **184** *L* **36** # **28**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incorrect wavelengh.

SuggestedRemedy
Change "...1550 nm..." with "...1490 nm..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1** *P* **184** *L* **42** # **1371**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
May or may not is the same thing.

SuggestedRemedy
Delete last sentence of paragraph.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; see comment 1432

Cl **59** *SC* **59.1** *P* **184** *L* **8** # **27**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Harmonize with Clause 60.

SuggestedRemedy
Delete the second sentence, "The Media Dependent Interface (MDI) is defined.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1.1** *P* **184** *L* **47** # **1372**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 58.1.1 to be Objectives.

SuggestedRemedy
Change to read:
58.1.1 Objectives

Support subscriber access network topologies:
a) Point to point on optical fiber.
b) 1000BASE-LX10 extended temperature range optics.
c) 1000BASE-X up to 10 km over single-mode fiber.
d) BER better than or equal to 10-12 at the PHY service interface.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. The text should also reflect the extended temperature objectives. Ensure consistancy across clauses. The intent of b) is 1000BASE-LX extended temperature range optics.

Cl **59** *SC* **59.1.1** *P* **185** *L* **7** # **555**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
The only place where the BER value is specified is here in Section 59.1.1 which is to be removed prior to publication.

SuggestedRemedy
Add BER spec to the 1000BASE-LX10 and 1000BASE-BX10 receiver tables.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; furhter discussion need in TG to determine proper manner for each Clause.

Cl **59** *SC* **59.1.2** *P* **185** *L* **37** # **29**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X** *Attn*
Incorrect legend.

SuggestedRemedy
In Figure 59-1, replace "MII=MEDIUM INDEPENDENT INTERFACE" with "GMII=GIGABIT MEDIUM INDEPENDENT INTERFACE"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1.2** *P* **185** *L* **37** # **1374**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
In Figure 59-1, add port types under the MEDIUM and delete MII from the legend.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1.2** *P* **185** *L* **9** # **1373**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change title to be 'Positioning of 1000BASE-LX10 and 1000BASE-BX10 PMDs within the IEEE 802.3 architecture'

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1.3** *P* **185** *L* **44** # **1375**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Delete 59.1.3 as this is implied upon reading this document.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. Want to keep this text for clarity

Cl **59** *SC* **59.1.3** *P* **186** *L* **2** # **30**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Harmonize with Clause 58.

SuggestedRemedy
Add "Introduction to Ethernet for subscriber access networks, see Clause 56 *ref*

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.1.4** *P* **186** *L* **20** # **1376**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete NOTE1. Move NOTE2 into a delay constraints subclause.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT. See related comments. This will keep consistancy with 60.1.4 and clause 58. See resolution to 1150

Cl **59** *SC* **59.1.4.3** *P* **186** *L* **52** # **1377**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
NOTE should be part of the primitive description.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Consistancy across clauses

Cl **59** *SC* **59.10.2** *P* **202** *L* **16** # **1404**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Spell out the optical transceivers.

SuggestedRemedy
Change 1000BASE-X to '1000BASE-LX10 and 1000BASE-BX10'.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.10.2** *P* **202** *L* **16** # **59**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Replace "1000BASE-X..." with 1000BASE-LX10 and 1000BASE-BX10..."

Proposed Response *Response Status* **W**
Proposed Accept; see 1404

Cl **59** *SC* **59.11** *P* **202** *L* **49** # **1405**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 1000BASE-BX to 1000BASE-BX10.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.1** *P* **203** *L* **42** # **60**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect designators.

SuggestedRemedy
Replace "...100BASE-LX10 and 100BASE-BX10..." with "...1000BASE-LX10 and 1000BASE-BX10..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.1** *P* **203** *L* **5** # **1406**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Figure 59-7 needs to use the full port type name.

SuggestedRemedy
For the upper diagram, add 'PMD' to the 'Tx' and 'Rx' boxes. Also change 'LX' to be '1000BASE-LX10'. For the lower diagram, change 'LX or BX' to be '1000BASE-LX10 or 1000BASE-BX10'.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.3** *P* **204** *L* **43** # **1407**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
1000BASE-BX should be 1000BASE-BX10. Same applies to 59.11.4, page 204, line 53.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.4** *P* **205** *L* **1** # **1408**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Points a and b should be in an IEEE style list. Also require a colon at the end of the sentence on page 204, line 54.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; clarification is need on IEEE style list.

Cl **59** *SC* **59.11.4** *P* **205** *L* **6** # **1409**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D** *Attn*
Full reference should be in Clause 1, not here.

SuggestedRemedy
Shorten reference to be 'IEC 61753-1-1'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. add full reference to Clause 1. Ensure that the full reference is included on the first page of the clause. Applies toall clauses

Cl **59** *SC* **59.11.4** *P* **205** *L* **9** # **61**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Reword note to read: "Note: Compliance testing is performed at TP2 and TP3 as defined in 59.3.1, not at the MDI."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.4** *P* **205** *L* **9** # **1410**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Note is not in proper IEEE format.

SuggestedRemedy
Apply 'Note' format.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **11** # **1411**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
single-mode should be Single-mode

SuggestedRemedy
As per comment. Applies to heading and Table 59-19.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **14** # **1412**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Replace 1000BASE-EX with 1000BASE-LX10 throughout subclause and include Figure 59-8.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. This is effected by other comments

Cl **59** *SC* **59.11.5** *P* **205** *L* **15** # **1413**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Second sentence is stated later with a shall.

SuggestedRemedy
Delete sentence.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **15** # **1414**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
The mode conditioner only applies to 1000BASE-LX10.

SuggestedRemedy
In 3rd sentence, change 'For 1000BASE-EX the mode...' to read 'The mode...'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Effected by other comments

Cl **59** *SC* **59.11.5** *P* **205** *L* **15** # **807**
Thatcher, Jonathan WWP

Comment Type **TR** *Comment Status* **D**
Use of 1000BASE-EX is confusing for two reasons:

1. E is frequently used in the industry for extended distance (e.g. 10GBASE-ER)
2. It is in no way clear that the real port type is 1000BASE-LX10. Or, we only use nominclature for real port types, not psuedotypes.

Yes, it may be confusing to someone who thinks that the 10 means 10 km and implies that 10 km can be acheived on MMF. But, having a PMD that changes port type based on the media that is plugged into it is more confusing yet.

Sorry.

SuggestedRemedy
Replace 1000BASE-EX with 1000BASE-LX10.

Proposed Response *Response Status* **W**
Proposed Accept; see comment 1412.

Cl **59** *SC* **59.11.5** *P* **205** *L* **19** # **1415**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Improper use of 'must'.

SuggestedRemedy
Change to read:
The offset launch shall be contained...

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **20** # **1416**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Last sentence of first paragraph is not providing a direct reference due to the words 'virtually identical'.

SuggestedRemedy
Delete sentence.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **44** # **1417**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Misuse of 'should'.

SuggestedRemedy
Change both instances of 'should be' to 'is'.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.11.5** *P* **205** *L* **52** # **1418**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
There are no shall statements about the color identifier.

SuggestedRemedy
Either state that this is a recommendation or apply shall statements to the color identifier.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; change to "The recommended color identifier…" 2 places.

Cl **59** *SC* **59.11.5** *P* **206** *L* **8** # **1419**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'Equipment' and 'Cable Plant' labels are hard to read.

SuggestedRemedy
Increase font size and make bold.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12** *P* **207** *L* **11** # **63**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
Replace "...Clause 21." with "...Clause 21 *ref*."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12** *P* **207** *L* **7** # **62**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
In the first sentence, replace "...Clause 59, ..." with ..."IEEE Std 802.3ah-2003, Clause 59 *ref*,..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.2.1** *P* **207** *L* **17** # **64**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect footnotes.

SuggestedRemedy
Replace entire Table with the Table in 60.11.2.1.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.2.2** *P* **207** *L* **33** # **1420**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Standard and date are wrong in two instances.

SuggestedRemedy
Change to be IEEE Std 802.3-2003 to be IEEE Std 802.3ah-200x. Also remove the R (registered trademark) symbol.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.2.2** *P* **207** *L* **33** # **65**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
Replace "...Clause 59, ..." with "...Clause 59 *ref*, ..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3** *P* **207** *L* **46** # **1421**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Keep heading with corresponding text.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; I assume the pagination will be correct in the final copy.

Cl **59** *SC* **59.12.3** *P* **208** *L* **10** # **567**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Need to specify low temperature range.

In 66A.3.1, Table 66-4 the recommended component case low temperature range (Cool Extended) is -30 C to +60 C. I believe we should pick these values for the PICS entry as well.

SuggestedRemedy
Change WW to -30 C
Change ZZ to +60 C

Proposed Response *Response Status* **W**
Proposed Accept in Principle; further discussion in TG needed on temperature ranges.

Cl **59** *SC* **59.12.3** *P* **208** *L* **12** # **1424**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn.*
Value/Comment for *LX, *BX-D and *BX-U are not specific enough.

SuggestedRemedy
Change *LX to be 'Device supports long wavelength (1310 nm) over dual simplex multimode and single-mode fibers.'

Change *BX-D to be 'Device supports downstream wavelength (1550 nm) over a duplex single-mode fiber.'

Change *BX-U to be 'Device supports upstream wavelength (1310 nm) over a duplex single-mode fiber.'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Use correct wavelength. Is the text okay

Cl **59** *SC* **59.12.3** *P* **208** *L* **12** # **66**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect Subclause designators.

SuggestedRemedy
For "*LX", replace "59.1" with "59.4"
For "*BX-D", replace "59.1" with "59.5"
For "*BX-U", replace "59.1" with "59.5"
For "*INS", replace "59.11.1" with "59.11"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3** *P* **208** *L* **14** # **1423**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
*BX-D and *BX-U are not used in the PICS.

SuggestedRemedy
Change to be *BD and *BU respectively.

Proposed Response *Response Status* **W**
Proposed Reject; see comment 69

Cl **59** *SC* **59.12.3** *P* **208** *L* **7** # **564**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Remove '*' before 'HT' and 'LT'

SuggestedRemedy
Per comment

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3** *P* **208** *L* **7** # **1422**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
*HT and *LT cannot exist as there are not shall statements associated with them.

SuggestedRemedy
Delete *HT and *LT.

Proposed Response *Response Status* **W**
Proposed Reject; defer to TG for discussion and resolution.

Cl **59** *SC* **59.12.3** *P* **208** *L* **8** # **566**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Need to specify high temperature range.

In 66A.3.1, Table 66-4 the recommended component case high temperature range (Warm Extended) is -5 C to +85 C. I believe we should pick these values for the PICS entry as well.

SuggestedRemedy
Change XX to -5 C
Change YY to +85 C

Proposed Response *Response Status* **W**
Proposed Accept in Principle; further discussion in TG needed on temperature ranges.

Cl **59** *SC* **59.12.3.1** *P* **209** *L* **1** # **67**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X** *Attn*
PIC corrections

SuggestedRemedy
For FN1, add entry for Value/Comment.

For FN3, replace Feature entry with "Transmitter optical signal"

For FN5, replace Feature entry with "Receiver optical signal"

For FN6, replace Value/Comment entry with "Mapping to PMD service interface"

For FN7, replace Value/Comment entry with "Generated according to Table 59-4"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.2** *P* **209** *L* **30** # **68**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X** *Attn*
PIC corrections.

SuggestedRemedy
Re-lable Items as LX1, LX2, LX3....

For PMD1, replace Feature entry with "1000BASE-LX10 transmitter"; move current Feature text to Value/Comment, replacing existing text.

Delete PMD2

For PMD4, replace Feature entry with "1000BASE-LX10 receiver"; move current Feature text to Value/Comment, replacing existing text.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.3** *P* **209** *L* **45** # **69**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
PIC corrections.

SuggestedRemedy
Re-lable Items as BX-D1 and BX-D2, BX-U1, BX-U2

For BD1, replace Feature entry with "1000BASE-BX10 transmitter"; move current Feature text to Value/Comment, replacing existing text and add Subclause reference to 59.5.1

For BD2, replace Feature entry with "1000BASE-BX10 receiver"; move current Feature text to Value/Comment, replacing existing text.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.3** *P* **209** *L* **45** # **1425**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Update feature and value/comment fields.

SuggestedRemedy
Change the BD1 feature and value/comment field to read:
Transmitter; Meets specifications in Table 59-8

Change the BD2 feature and value/comment field to read:
Receiver; Meets specifications in Table 59-9

Same applies for PICS entries BU1 and BU2 in 59.12.3.4.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; see comment 69

Cl **59** *SC* **59.12.3.4** *P* **210** *L* **5** # **70**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
PIC corrections.

SuggestedRemedy
Re-lable Items as BX-U1 and BX-U2

For BU1, replace Feature entry with "1000BASE-BX10 transmitter"; move current Feature text to Value/Comment, replacing existing text and add Subclause reference to 59.5.1

For BU2, replace Feature entry with "1000BASE-BX10 receiver"; move current Feature text to Value/Comment, replacing existing text.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.5** *P* **210** *L* **16** # **71**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
PIC corrections

SuggestedRemedy
Re-lable Items as OM1, OM-2 or ES-1, ES-2.....

Modify optical measurement requirements consistent with Clause 60 Table 60.11.3.5

Separate out environmental specifications into a separate Table consistent with 60.11.3.6

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.5** *P* **211** *L* **13** # **565**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Make PICS consistent with Clause 60

SuggestedRemedy
Add new section called "59.11.3.6 Environmental specifications" similar to Clause 60 and move OR17 to OR21 to a new table in this section and rename them ES1 to ES5.

Add new entry "ES6 Operating temperature range labeling" similar to Clause 60.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.5** *P* **211** *L* **13** # **1426**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
OR17 to OR21 have more to do with safety than optical measurements.

SuggestedRemedy
Create a new PICS table for OR17-21. Change OR21 feature to read 'Installation practices'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Ensure consistancy with other clauses

Cl **59** *SC* **59.12.3.6** *P* **211** *L* **32** # **72**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
PIC corrections.

SuggestedRemedy
Re-lable Items as FO-1, FO-2, FO-3...

Modify optical measurement requirements consistent with Clause 60 Table 60.11.3.7

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.12.3.6** *P* **211** *L* **39** # **1427**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
LI4 to LI7 apply to the offset launch mode-conditioning patch cords.

SuggestedRemedy
Create new PICS table with LI4-7.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.2** *P* **187** *L* **1** # **1378**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Delete '(informative)' from the title.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Reject; the normative text is in Clause 45. Ensure that this is consistent across the clauses

Cl **59** *SC* **59.2** *P* **187** *L* **4** # **1379**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Need to add shalls.

SuggestedRemedy
In 2nd sentence, change 'it maps' to be 'it shall map', and change 'and MDIO status' to be 'and shall map MDIO status'.

Proposed Response *Response Status* **W**
Proposed Reject; the normative text is in Clause 45. Ensure consistancy across clauses

Cl **59** *SC* **59.3.1** *P* **187** *L* **43** # **31**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
"...implemnters." should read "...implementers."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.3.4** *P* **189** *L* **3** # **1380**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
8B/10B should be kept together.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4** *P* **189** *L* **29** # **1381**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
This applies to all notes in this clause. The editor should ensure that they follow the IEEE style guide (i.e. Note format).

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4** *P* **189** *L* **30** # **32**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
"...explained in 60.8.6." should read "...explained in 60.8.6 *ref*."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4** *P* **190** *L* **1** # **1383**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn.*
Figure should be in FrameMaker format.

SuggestedRemedy
As per comment. Figure is also in the middle of a paragraph and should have its anchor point moved or properties changed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Figures already in Frame format

Cl **59** *SC* **59.4** *P* **190** *L* **28** # **1384**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Tables 59-5, 59-6 and 59-7 are in the middle of a paragraph.

SuggestedRemedy
Move anchor point or change properties. Table 59-5 should also be on one page by changing the orphan properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Changes will be made as appropriate

Cl **59** *SC* **59.4.1** *P* **189** *L* **34** # **33**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "59.4.1 Transmitter optical specifications" with "59.4.1 1000BASE-LX10 transmitter optical specifications"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **189** *L* **41** # **34**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Missing figure reference.

SuggestedRemedy
Replace "... is shown in Table 59-6." with "... is shown in Table 59-6 and Figure 59-3."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **189** *L* **42** # **35**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "Theequation..." with "The equation..."

Proposed Response *Response Status* **W**
Proposed Accept; see 1382

Cl **59** *SC* **59.4.1** *P* **189** *L* **42** # **556**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Missed space

SuggestedRemedy
Change "Theequation" to "The equation"

Proposed Response *Response Status* **W**
Proposed Accept; see 1382

Cl **59** *SC* **59.4.1** *P* **189** *L* **42** # **1382**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing space.

SuggestedRemedy
Insert space between 'The' and 'equation' in 2nd sentence of 2nd paragraph.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **190** *L* **1** # **37**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Missing axis label

SuggestedRemedy
In Figure 59-3, add vertical axis label: "RMS spectral width (nm)"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **190** *L* **37** # **38**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Harmonize with Clause 58.

SuggestedRemedy
Replace "See middle column of Table 59-6" with "See Table 59-6"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **191** *L* **19** # **775**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need TDP limits

SuggestedRemedy
Start with 3.3, 4, 3.5 dB

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **191** *L* **19** # **39**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incomplete transmit characteristics

SuggestedRemedy
Replace "TBD" with correct values for TDP in Table 59-5 (three places).

Proposed Response *Response Status* **W**
Proposed Accept; see 777

Cl **59** *SC* **59.4.1** *P* **191** *L* **48** # **40**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Extra table row.

SuggestedRemedy
Delete row in Table 59-6

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.1** *P* **191** *L* **51** # **41**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
Replace "...in Figure 59-4." with "...in Figure 59-3."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.2** *P* **189** *L* **45** # **36**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Replace "59.4.2 Receiver optical specifications" with "59.4.2 1000BASE-LX10 receiver optical specifications"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.2** *P* **192** *L* **23** # **776**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need stressed eye jitter spec

SuggestedRemedy
Start with 0.3 UI pk-pk. Same for 1000BASE-BX

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.4.2** *P* **192** *L* **26** # **777**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need SJ limits

SuggestedRemedy
0.05, 0.15 UI. Same for 1000BASE-BX.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5** *P* **192** *L* **24** # **42**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incomplete receive characteristics.

SuggestedRemedy
Replace "TBD" in Table 59-7 (two places).

Proposed Response *Response Status* **W**
Proposed Accept; see 776 and 777

Cl **59** *SC* **59.5** *P* **192** *L* **27** # **43**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Verify unit for sinusodial jitter.

SuggestedRemedy
Is the unit kHz as denoted here or UI as denoted in Clause 60?

Proposed Response *Response Status* **W**
Proposed Accept UI is the correct unit.

Cl **59** *SC* **59.5** *P* **193** *L* **34** # **1386**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Change Table 59-9 orphan properties to keep on one page. Also strike 'not mandatory' from footnote a.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. The footnote text is common verbage in other places in Clause 59 as well as other Clauses (see Table 60-5). Let's make a global decision. Ensure consistancy across clauses. See related comments. Will keep the 'not mandatory'

Cl **59** *SC* **59.5.1** *P* **192** *L* **38** # **44**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "59.5.1 Transmit optical specifications" with "59.5.1 1000BASE-BX10 transmitter optical specifications"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5.1** *P* **193** *L* **18** # **780**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
1000BASE-BX being new should use RINxOMA which is preferable both for specification and for measurement to old style RIN.

SuggestedRemedy
Make the change. RIN12OMA limit around -115. RINxOMA to be tested with idle pattern.

Discuss changing 1000BASE-LX10 also. I don't think making the change causes any compatibility issue.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; TG to discuss whether the test is to be recommended or mandatory

Cl **59** *SC* **59.5.1** *P* **193** *L* **26** # **778**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need TDP limits

SuggestedRemedy
Start with 3.3, 3.3 dB.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5.1** *P* **193** *L* **27** # **47**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incomplete transmit characteristics

SuggestedRemedy
Replace "TBD" with correct values in Table 59-8 (two places).

Proposed Response *Response Status* **W**
Proposed Accept; see 778

Cl **59** *SC* **59.5.2** *P* **192** *L* **43** # **45**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "59.5.2 Receiver optical specifications" with "59.5.2 1000BASE-BX10 receiver optical specifications"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5.2** *P* **194** *L* **24** # **50**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Revise footnote "b" to read: "Vertical eye closure penalty and jitter specifications are test conditions for measuring stressed receiver sensitivity. They are not required characteristics of the receiver."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5.2** *P* **194** *L* **25** # **49**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Footnote incorrectly placed.

SuggestedRemedy
Apply footnote "b" to vertical eye closure.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.5.2** *P* **194** *L* **5** # **48**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incomplete receive characteristics

SuggestedRemedy
Replace "TBD" with correct values in Table 59-9 (two places).

Proposed Response *Response Status* **W**
Proposed Accept; see 778

Cl **59** *SC* **59.6** *P* **192** *L* **50** # **46**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "59.6 Illustrative 1000BASE-LX10 and 1000BASE-BX10 channel and penalties" with "59.6 Illustrative 1000BASE-LX10 and 1000BASE-BX10 channels and penalties (Informative)"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.6** *P* **192** *L* **50** # **1385**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete illustrative from the heading, text and table.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Reject; The wording of this subclause title has been agreed to at a previous meeting.

Cl **59** *SC* **59.6** *P* **194** *L* **43** # **51**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Revise footnote "a" to read: "The maximum channel insertion loss..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.6** *P* **195** *L* **1** # **53**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incorrect Table.

SuggestedRemedy
Delete Table 59-11

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.7** *P* **194** *L* **49** # **561**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Missed space between "MMF" and "(informative)"

SuggestedRemedy
Per comment. Check for a few more instances.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.7** *P* **194** *L* **49** # **1387**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Need space between MMF and (informative).

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept; see 561

Cl **59** *SC* **59.7** *P* **194** *L* **51** # **52**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X** *Attn*
Clarification

SuggestedRemedy
Replace "Numbers..." with "The entries..."

Proposed Response *Response Status* **W**
Proposed Accept; see comment 1388 - TG to decide preferred text.

Cl **59** *SC* **59.7** *P* **194** *L* **51** # **1388**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Paragraph could be easier to read.

SuggestedRemedy
Change to read:
Table 59-12 contains informative high frequency jitter (above 637 kHz) values and does not include low frequency jitter or wander.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; see 52

Cl **59** *SC* **59.7** *P* **195** *L* **1** # **1389**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Table 59-11 is not referenced.

SuggestedRemedy
Delete table.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT. Will be removed

Cl **59** *SC* **59.7** *P* **195** *L* **19** # **1390**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Add space between MMF and (informative).

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.8** *P* **195** *L* **41** # **1391**

Booth, Brad — Intel

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

Change paragraph to read:

Table 59-13 contains informative high frequency jitter (above 637 kHz) values and does not include low frequency jitter or wander.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

Proposed Accept in Principle; see 52

Cl **59** *SC* **59.8.9** *P* **209** *L* # **99108**

Diab, Wael William — Cisco Systems

Comment Type **TR** *Comment Status* **A** *D1.1 #697*

TDP is the appropriate method for evaluating PMDs. Nonetheless, given the speed of these PMDs and the short-term desire to implement solutions (as expressed in the original proposal presentations), an informative that relates traditional measurement techniques to TDP may help bridge the gap.

SuggestedRemedy

Specify an informative correlation between the TDP measurements and the eye mask and/or the jitter numbers

Proposed Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Needs more work by the ad-hoc.

Jitter numbers remain for 1000BASEEXand BX as informaytive (with the exception of TP2 for BX).

Also, add "High probability jitter at TP2 is constrained by the eye mask. Total jitter at TP3 (and therefore at TP2 also) is constrained by the error detector timing offsets."

Cl **59** *SC* **59.9** *P* **195** *L* **48** # **1392**

Booth, Brad — Intel

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

Add reference to Table 59-14.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

Proposed Accept in Principle; relable 59.9.1 "Test patterns" and replace "…below." with "…in Table 59-14."

Cl **59** *SC* **59.9.1** *P* **197** *L* **13** # **404**

Radcliffe, Jerry — Hatteras Networks

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

Table 59-15 needs to be modified. In order for the test patterns to work properly the running disparity from the 32 byte "First portion of MAC Client Data" should be positive.

SuggestedRemedy

Add a footnote to Table 59-15. Suggested text "The running disparity exiting the first portion of the MAC client data shall be positive"

Proposed Response *Response Status* **W**

Proposed Accept.

Cl **59** *SC* **59.9.1.1** *P* **196** *L* **39** # **402**

Radcliffe, Jerry — Hatteras Networks

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

This is a single level 4 header below the 59.9.1 level three header. It should be removed.

SuggestedRemedy

Remove the header

Proposed Response *Response Status* **W**

Proposed Accept.

Cl **59** *SC* **59.9.1.1** *P* **196** *L* **43** # **1393**

Booth, Brad — Intel

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

59-15 should be on one line.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

Proposed Accept.

Cl **59** *SC* **59.9.1.1** *P* **196** *L* **46** # **1394**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Second sentence needs to start with uppercase T. Third paragraph should be joined with second paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.10** *P* **200** *L* **3** # **1401**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Paragraph needs clean up.

SuggestedRemedy
Change to read:
This measurement tests for transmitter impairments with modal dispersion effects for a transmitter to be used with MMF and with chromatic dispersion effects for a transmitter to be used with SMG. Possible causes... mode partition noise. Meeting the separate requirements... guarantee the TDP. The TDP limit shall be met as per [need reference here]. See 60.8.9 for details of the measurement.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.12** *P* **200** *L* **16** # **782**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Where does this section (FC-PH methods) stand in comparison with XAUI style jitter measurements as in clause 60?

SuggestedRemedy
Discuss!

Proposed Response *Response Status* **W**
Proposed Accept in Principle; TG to discuss alternatives.

Cl **59** *SC* **59.9.12** *P* **200** *L* **18** # **1402**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Reference longer than required.

SuggestedRemedy
Shorten to 'ANSI X3.230 [B20](FC-PH), Annex A, A.4.2'.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.12** *P* **200** *L* **19** # **1403**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
BERT stands for Bit Error Ratio Tester as per IEEE Std. 802.3ae, 2002.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; also delete "...test set."

Cl **59** *SC* **59.9.2** *P* **197** *L* **51** # **1395**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Remove extra spaces in reference.

SuggestedRemedy
Change to be 'ANSI/EIA/TIA-455-127'.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.2** *P* **198** *L* **12** # **56**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Incorrect reference.

SuggestedRemedy
Replace "...Table 59-4..." with "...Table 59-5, Table 59-8..."

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.2** *P* **198** *L* **4** # **54**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect notation.

SuggestedRemedy
Replace "10e3" with "10-3"

Proposed Response *Response Status* **W**
Proposed Accept. Also use super-script

Cl **59** *SC* **59.9.2** *P* **198** *L* **7** # **1396**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Equation not in proper format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; how does the editor fix it?

Cl **59** *SC* **59.9.2** *P* **198** *L* **7** # **55**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect equation designator.

SuggestedRemedy
"59-1" should read "(59-1)

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.2** *P* **198** *L* **7** # **879**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D** *Attn*
Text calls out 10e3, but not in formula.

SuggestedRemedy
Add x 10e3 to formula

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Agree at the meeting on the correct format for all clauses

Cl **59** *SC* **59.9.4** *P* **198** *L* **23** # **1397**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Delete last sentence and add '(defined in Clause 36)' after '... idle pattern I2...'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept in Principle; to be discussed by TG since this text was agreed to at last meeting.

Cl **59** *SC* **59.9.6** *P* **198** *L* **33** # **1398**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change 2nd sentence to read:
Clause 60 provides information on how OMA, extinction ratio and mean power are related to each other (see 60.8.6).

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.7** *P* **198** *L* **40** # **1399**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Full title of reference not required.

SuggestedRemedy
Change to read 'ANSI X3.230 [B20](FC-PH) Annex A, A.5'. This might be able to be even shorter.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **59.9.8** *P* **199** *L* **4** # **1400**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Wrong equation number.

SuggestedRemedy
Equation should be (59-2). This impacts all following equations.

Proposed Response *Response Status* **W**
Proposed Accept; see 57 and 58

Cl **59** *SC* **59.9.8** *P* **199** *L* **4** # **57**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X** *Attn*
Incorrect equation descriptor and location.

SuggestedRemedy
"(59-1)" should read "(59-2)" and be right justified.

Proposed Response *Response Status* **W**
Proposed Accept. How to

Cl **59** *SC* **59.9.8** *P* **199** *L* **9** # **58**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect equation descriptor and location.

SuggestedRemedy
"(59-2)" should read "(59-3)" and be right justified.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Figure 59-4** *P* **199** *L* **27** # **563**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Remove '0'

SuggestedRemedy
Change ".50" to "0.5"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-1** *P* **184** *L* **19** # **551**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Switch places on the 1000BASE-BX10-U and 1000BASE-BX10-D columns in order to be consistent with Clause 60 and the rest of Clause 59.

SuggestedRemedy
Per comment

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-1** *P* **184** *L* **22** # **552**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Straddle columns 2 & 3, and columns 4 & 5

SuggestedRemedy
Per comment

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-1** *P* **184** *L* **27** # **553**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Missing space between value and unit

SuggestedRemedy
Change "1310nm" to "1310 nm" and make similar changes throughout Clause 59.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-12** *P* **195** *L* **24** # **562**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Avoid capital letters in middle of sentence.

SuggestedRemedy
Per comment. Check for a few more instances.

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-5** *P* **191** *L* **13** # **557**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Missed space between "X2," and "Y1"

SuggestedRemedy
Change to "{X1, X2, Y1, Y2, Y3}"

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **59** *SC* **Table 59-5** *P* **191** *L* **19** # **558**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
TDP values undefined

SuggestedRemedy
Sorry, don't know what the values should be.

Proposed Response *Response Status* **W**
Proposed Accept; see 775

Cl **59** *SC* **Table 59-8** *P* **193** *L* **27** # **559**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
TDP values undefined

SuggestedRemedy
Sorry, don't know what the values should be.

Proposed Response *Response Status* **W**
Proposed Accept; see 775

Cl **59** *SC* **Table 59-9** *P* **194** *L* **5** # **560**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Fill in value for "receiver sensitivity as OMA (max)"

SuggestedRemedy
Receiver sensitivity OMA (max) = 12.0 uW (-19.2 dBm)

Proposed Response *Response Status* **W**
Proposed Accept.

Cl **60** *SC* **60** *P* **213** *L* **23** # **744**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Another reference

SuggestedRemedy
IEC Publication 61280-2- 2, FIBRE OPTIC COMMUNICATION SUBSYSTEM BASIC TEST PROCEDURES – Part 2-2: Test procedures for digital systems – Optical eye pattern, waveform, and extinction ratio (pending). Equivalent to ANSI/TIA/EIA-526-4A-1997.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.1** *P* **214** *L* **11** # **1431**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Reference two clauses, therefore 'Clause' should be plural.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.1** *P* **214** *L* **27** # **806**
Thatcher, Jonathan WWP

Comment Type **TR** *Comment Status* **D**
Minimum range indicates operation between 0.5 m and 10 km. Testing is done (per patch cable specs) from 2 m to 10 km (example 60.8). The committee response from the D1.3 (comment 1018) is that patch cable length should be left at 2.0 meters.

Additionally, the resolution to comment 999 for clause 59 indicates that "2M is enough to ensure good repeatbility of the emeasurements, whereas 0.5m may not."

If the measurement repeatibility cannot be ensured, neither can interoperability.

We can't have it both ways.

SuggestedRemedy
Pick one:

a) Change all test patch cord specifications and operational ranges to 0.5 m

or

b) Change all test patch cord specifications and operational ranges to 2 m

Make it consistent in Clauses 58, 59, and 60.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

2 m for measurement and 0.5 m for (less precise) low BER operation are indeed compatible. But to be sure, add to p243 line 41 60.10.1 Fiber optic cabling model, 'NOTE - In extreme cases with minimum length links (less than 0.5 m), care may be taken to avoid excess optical power delivered through cladding modes to the receiver.

Add similar note in clauses 58 and 59.

Cl **60** *SC* **60.1** *P* **214** *L* **3** # **1429**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
First paragraph needs to be cleaned up.

SuggestedRemedy
Change to read:
... 100 Mb/s Ethernet connections over a pair of single-mode fiber or an individual single-mode fiber, respectively, up to 10 km.

Delete the last sentence of the paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent accross clauses 58, 59, and 60.

Cl **60** *SC* **60.1** *P* **214** *L* **33** # **541**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Switch places on 100BASE-BX10-U and 100BASE-BX10-D since -D always comes before -U in the rest of the paragraph (and throughout the whole document).

SuggestedRemedy
Switch places on 100BASE-BX10-U and 100BASE-BX10-D.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Note TS-1000 and G.983.1 also give downstream direction first.

Cl **60** *SC* **60.1** *P* **214** *L* **40** # **1432**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Last sentence of last paragraph makes no statement about compliance.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Will be discussed at the meeting.

Comment #1145 addresses this issue.

Cl **60** *SC* **60.1** *P* **214** *L* **8** # **1430**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
First sentence of 2nd paragraph doesn't read well.

SuggestedRemedy
Change to read:
This clause specifies the 100BASE-LX10 PMD, the 100BASE-BX10 PMD and the medium.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change text to: "This clause specifies the 100BASE-LX10 PMD, the 100BASE-BX10 PMDs, and the medium single mode fiber."

Make consistent accross clauses 58, 59, and 60.

Cl **60** *SC* **60.1.1** *P* **210** *L* **1** # **99048**
Dawe, Piers Agilent

Comment Type **TR** *Comment Status* **R** *D1.0 #264*
10^-12 BER can't really be necessary, being one (detected) error in two hours. It would be expensive to test for and remarkably hard to extrapolate reliably, though in practice (without the guarantee in the standard) it will be met cost-effectively. I understand the underlying technical reason for demanding very low BERs is to avoid TCP running slow when it sees dropped packets. 10^-10 or 10^-11 seems enough. Other 100Mb/s PHYs use on the order of 10^-10.

SuggestedRemedy
Consider a more traditional BER limit for all 100M PHYs.

Proposed Response *Response Status* **U**
REJECT.

The PMD STF needs to discuss the technical and economical feasibility for specifying a BER of 10^-12 for all 100Mbps PHYs, especially in terms of testing.

14-2-3. Commentor is encouraged to bring a revised proposal.

At the November meeting the commentor asked to postpone till the next cycle

Cl **60** *SC* **60.1.1** *P* **214** *L* **44** # **1433**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change subclause into objectives.

SuggestedRemedy
Change to read:
60.1.1 Objectives

Support subscriber access network topologies:
a) Point to point on optical fiber
b) 100BASE-X up to 10 km over single-mode fiber (SMF)
c) BER better than or equal to 10-12 at the PHY service interface.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.1.1** *P* **215** *L* **1** # **542**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
The only place where the BER value is specified is here in Section 60.1.1 which is to be removed prior to publication.

SuggestedRemedy
Add BER spec to the 100BASE-LX10 and 100BASE-BX10 receiver tables.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Add spec to the receiver tables. Note comments 99048 and 555.

Make consistent across Clauses 58, 59, and 60.

Cl **60** *SC* **60.1.3** *P* **215** *L* **36** # **1434**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Information and cross-references are implied by reading the document.

SuggestedRemedy
Delete subclause.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

This section is very helpful for the reader.

Cl **60** *SC* **60.1.3** *P* **215** *L* **48** # **73**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Missing reference.

SuggestedRemedy
Add: "Introduction to Ethernet for subscriber access networks, see Clause 56 *ref*

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.1.4** *P* **216** *L* **12** # **74**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Un-numbered notes

SuggestedRemedy
Modify to read: Note 1 and Note 2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.1.4.3** *P* **216** *L* **44** # **1435**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Notes don't appear to meet IEEE style guide.

SuggestedRemedy
Apply 'Note' format to all notes.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.1** *P* **243** *L* **28** # **1462**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Need to spell out the full port name.

SuggestedRemedy
Change 'LX10 or BX10' to be '100BASE-LX10 or 100BASE-BX10'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.3** *P* **243** *L* **51** # **882**
Tom Mathey Independent

Comment Type **E** *Comment Status* **D**
spice is used on food.

SuggestedRemedy
splice is used to join fibre.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.3** *P* **243** *L* **51** # **545**
Jonsson, Ulf Ericsson

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

SuggestedRemedy
Change "spice" to "splice"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.3** *P* **243** *L* **51** # **742**
Dawe, Piers Agilent

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

SuggestedRemedy
splice

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.3** *P* **243** *L* **51** # **1463**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
No spice loss, but likely a 'splice loss'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.3** *P* **243** *L* **54** # **1464**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'e.g.' used in middle of sentence.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Cl **60** *SC* **60.10.3** *P* **244** *L* **13** # **1465**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
Delete 'not normative' from footnote c of Table 60-14.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.10.4** *P* **244** *L* **27** # **1466**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Full reference not required as should be in Clause 1.

SuggestedRemedy
Change to read:
... performance specifications of IEC 61753-1-1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent across Clauses 58, 59, and 60.

Cl **60** *SC* **60.10.4** *P* **244** *L* **30** # **83**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Delete "...Clause..." in NOTE

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.2.2** *P* **245** *L* **38** # **1467**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Date should be changed in both instances to '200x'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Insert following editor's note into Clause 60 preamble:
"In 60.11.2.2, insert year of standard approval into 'IEEE Std 802.3ah-200x' prior to publication."

Cl **60** *SC* **60.11.2.3** *P* **246** *L* **11** # **548**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Need to specify low temperature range.

In 66A.3.1, Table 66-4 the recommended component case low temperature range (Cool Extended) is -30 C to +60 C. I believe we should pick these values for the PICS entry as well.

SuggestedRemedy
Change WW to -30 C
Change ZZ to +60 C

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.2.3** *P* **246** *L* **16** # **1469**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
*BX-D and *BX-U should be shortened as per previous clauses.

SuggestedRemedy
Change to be *BD and *BU, respectively. Update throughout the Clause 60 PICS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent across Clauses 58, 59, and 60.

Cl **60** *SC* **60.11.2.3** *P* **246** *L* **8** # **547**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Need to specify high temperature range.

In 66A.3.1, Table 66-4 the recommended component case high temperature range (Warm Extended) is -5 C to +85 C. I believe we should pick these values for the PICS entry as well.

SuggestedRemedy
Change XX to -5 C
Change YY to +85 C

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.2.3** *P* **246** *L* **9** # **1468**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
HT and LT have no shall statements within Clause 60.

SuggestedRemedy
Delete entries.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Will be discussed at the meeting

Comment #1145 addresses this issue.

Cl **60** *SC* **60.11.3.1** *P* **247** *L* **9** # **84**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Missing Value/Comment

SuggestedRemedy
For FN1, add Value/Comment

Proposed Response *Response Status* **Z**
Comment withdrawn.

Cl **60** *SC* **60.11.3.5** *P* **248** *L* **29** # **757**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Fill gap, OM1

SuggestedRemedy
60.8

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.3.5** *P* **248** *L* **30** # **758**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Complete OM2

SuggestedRemedy
"60.8.1, 60.8.8, 60.8.10"
"Used for eye, sensitivity, TDP, stressed sensitivity, jitter"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.3.5** *P* **248** *L* **46** # **759**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D** *Attn*
Correcting OM9

SuggestedRemedy
Status O, support Yes or No.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This issue will be discussed at the meeting.

Accept remedy. However, this requires the following modifications to 60.8.11:
1) Remove "(informative)" from the title.
2) Add following text at the end of the first paragraph, p235, line 8: "If this test is applied the receiver shall be compliant to for example Table 60-6."

Cl **60** *SC* **60.11.3.6** *P* **249** *L* **14** # **760**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Font size

SuggestedRemedy
Reset

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.11.3.7** *P* **249** *L* **30** # **1470**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
PICS entry FO4 need a No[ ] option as the status is optional.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.2** *P* **216** *L* **49** # **1436**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete '(informative)' from heading.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The normative text is in Clause 45.

Cl **60** *SC* **60.2** *P* **216** *L* **52** # **1437**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Missing shall statements.

SuggestedRemedy
Change second sentence to read:
If MDIO is implemented, it shall map MDIO control variables to PMD control variables as shown in Table 60-2, and shall map MDIO status variables...

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The normative text is in Clause 45.

Cl **60** *SC* **60.3.1** *P* **218** *L* **2** # **1438**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Move anchor point or change properties to prevent dragging of paragraph onto the next page.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.3.1** *P* **218** *L* **29** # **1439**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
100BASE-FX is not in the EFM document; therefore, do not make reference to it.

SuggestedRemedy
Change to read:
... 100BASE-BX10-D and 100BASE-BX10-U.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Add cross-reference to Clause 26, 100BASE-FX.

Cl **60** *SC* **60.3.2** *P* **218** *L* **36** # **724**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Under NRZI, won't the link work if 1 is mapped to 0 and vice versa?

SuggestedRemedy
Change "shall" to "should" here and on line 43. Add:
NOTE - Because The NRZI coding distinguishes between a transition and no transition on the line, as opposed to 0 and 1, an inverted signal is usable."
Remove the two corresponding PICS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This issue will be discussed at the meeting

Cl **60** *SC* **60.4** *P* **220** *L* **5** # **725**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
"Transmitter type" is included as an aid to the reader but is not an exclusive requirement. Need to explain.

SuggestedRemedy
Change to "Nominal transmitter type a"
Insert note a: "The nominal device type is not intended to be a requirement on the source type, and any device meeting the transmitter characteristics specified may be substituted for the nominal device type."
Apply to table 60-7 also (and clauses 58, 59).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent across clauses 58, 59, and 60.

Cl **60** *SC* **60.4.1** *P* **219** *L* **37** # **75**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Reword subclause title to read: "60.4.1 100BASE-LX10 transmitter optical specifications"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See resolution to D1.3 comment #85 from the Dallas meeting:

"REJECT. This is already clear from the clause title of 60.4 "PMD to MDI optical specifications for 100BASE-LX10."

Make consistent accross Clauses 58, 59, and 60.

Cl **60** *SC* **60.4.1** *P* **219** *L* **39** # **726**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Clarification.

SuggestedRemedy
Change sentence to:
"The 100BASE-LX10 transmitter's signaling speed, operating wavelength, spectral width, average launch power, extinction ratio, return loss tolerance, OMA, eye and TDP shall meet the specifications defined in Table 60–5 per measurement techniques described in 60.8. Its RIN12OMA should meet the value listed in Table 60–5 per measurement techniques described in 60.8.7."

Similarly in 60.4.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make similar clarifications to Clauses 58 and 59.

Cl **60** *SC* **60.4.1** *P* **220** *L* **1** # **1440**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Tables 60-5 and 60-6 are in the middle of the paragraph.

SuggestedRemedy
Move anchor point or change properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

For now, the decision is to keep the tables as floating. This will be fixed later on when the document is more stable.

Cl **60** *SC* **60.4.1** *P* **220** *L* **23** # **743**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
To make the single sided clock recovery work the transmit eye mask will have to be further tightened

SuggestedRemedy
Change X1, X2, X3 to 0.18, 0.29, 0.35. Also in table 60-7.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.4.1** *P* **220** *L* **26** # **728**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Choosing decision timing offsets for TDP. These have to be quite stringent to make the single sided clock recovery work.

SuggestedRemedy
+/-1.6 ns. Add editors' note: "The decision timing offset may need to be increased." Use same limits in table 60-7.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This issue will be discussed at the meeting

Cl **60** *SC* **60.4.2** *P* **219** *L* **46** # **76**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Reword subclause title to read: "60.4.2 100BASE-LX10 receiver optical specifications"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See resolution to #75

Cl **60** *SC* **60.4.2** *P* **219** *L* **47** # **727**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Clarification.

SuggestedRemedy
Change sentence to :
"The 100BASE-LX10 receiver's signaling speed, operating wavelength, damage, overload, sensitivity, reflectivity and signal detect shall meet the specifications defined in Table 60–6 per measurement techniques defined in 60.8. Its stressed receive characteristics should meet the values listed in Table 60–7 per measurement techniques described in 60.8.11."

Similarly in 60.5.2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make similar clarifications to Clauses 58 and 59.

Cl **60** *SC* **60.4.2** *P* **221** *L* **16** # **729**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Setting stressed eye jitter limit. This should be similar to 2.X1 from the mask dimensions. A smaller number may be appropriate.

SuggestedRemedy
0.25 UI pk-pk. Use same limit in table 60-8. This proposal will need road testing.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This issue will be discussed at the meeting

Cl **60** *SC* **60.4.2** *P* **221** *L* **16** # **77**
Swanson, Steve Corning Incorporated

Comment Type **T** *Comment Status* **X**
Missing Table entry.

SuggestedRemedy
Add value for Stressed eye jitter in Table 60-6

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Comment #729 addresses this issue.

Cl **60** *SC* **60.4.2** *P* **221** *L* **19** # **730**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Setting sinusoidal jitter range.

SuggestedRemedy
0.05, 0.15. Units are UI (equivalent to 0.4, 1.2 ns for 100BASE-X).

Use same limits in table 60-8, and in clause 59, and 58 downstream. Suggest same for 58 upstream.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This issue will be discussed at the meeting

Cl **60** *SC* **60.4.2** *P* **221** *L* **24** # **1441**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D** *Attn*
In footnote c of Table 60-6, delete 'not mandatory'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent across clauses 58, 59, and 60.
See #1445.

Cl **60** *SC* **60.5.1** *P* **221** *L* **33** # **78**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Reword subclause title to read: "60.5.1 100BASE-BX10 transmitter optical specifications"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See resolution to #75

Cl **60** *SC* **60.5.1** *P* **222** *L* **1** # **1444**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 60-7 and 60-8 break the flow of the document. Try to keep with corresponding text.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This will be fixed later on when the document is more stable.

Cl **60** *SC* **60.5.1** *P* **222** *L* **29** # **1445**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
In footnote b of Table 60-7, delete 'not mandatory'.

SuggestedRemedy
As per comment. Same applies to footnote d of Table 60-8.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent across Clauses 58, 59, and 60
See #1441

Cl **60** *SC* **60.5.2** *P* **221** *L* **43** # **79**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification.

SuggestedRemedy
Reword subclause title to read: "60.5.2 100BASE-BX10 receiver optical specifications"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See resolution to #75

Cl **60** *SC* **60.5.2** *P* **222** *L* **34** # **1446**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change the number of orphans to put table on one page.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.5.2** *P* **223** *L* **14** # **80**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Incorrect description.

SuggestedRemedy
"Vertical eye-closure penaltyc" should read "Vertical eye-closure penalty (min)"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.5.2** *P* **223** *L* **19** # **81**
Swanson, Steve Corning Incorporated

Comment Type **E** *Comment Status* **X**
Clarification of units.

SuggestedRemedy
For sinusoidal jitter limits, should the unit be kHz (as denoted in 58 and 59) or UI as denoted in 60? Make consistent across all clauses.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The unit should be UI. Make consistent across all clauses.

Cl **60** *SC* **60.6** *P* **221** *L* **49** # **1442**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Remove word 'illustrative' from subclause heading, text and Table 60-9.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The wording of this subclause title has been agreed to at a previous meeting.

Cl **60** *SC* **60.6** *P* **221** *L* **53** # **1443**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Change sentence to read:
100BASE-LX10 and 100BASE-BX10 channels and penalties are...

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See resolution to #1442

Cl **60** *SC* **60.7** *P* **223** *L* **53** # **82**
Swanson, Steve Corning Incorporated

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

SuggestedRemedy
Replace "Numbers..." with "The entries..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.7** *P* **224** *L* **17** # **407**
Radcliffe, Jerry Hatteras Networks

Comment Type **T** *Comment Status* **D**
Table 60-10 contains TBD for the jitter values at TP4. Suggested values are shown below. An explaination of these values is given in the attached file radcliffe_optics_1_0503.pdf

SuggestedRemedy
Change the TBDs to
Total Jitter UI = 0.51
Total Jitter ns = 4.04
DJ UI = 0.305
DJ ns = 2.36

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

With thanks to the commenter for such good work. These values need further experimental validation.

Cl **60** *SC* **60.8** *P* **224** *L* **22** # **1447**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing commas from sentence.

SuggestedRemedy
Change to read:
All optical measurements, except TDP and RIN, shall be made...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent accross clauses 58, 59, and 60.

Cl **60** *SC* **60.8** *P* **224** *L* **25** # **1448**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Note not required as corresponding clauses make the proper references.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

It's not strictly required to include these references, but it helps the reader.

Cl **60** *SC* **60.8** *P* **224** *L* **28** # **745**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Clarification. Add suggested text below or this sentence taken from IEEE Std 1802.3: "This standard does not preclude the use of alternative methodologies provided that an equivalence between the prescribed methodology and the alternative methodology can be demonstrated."

SuggestedRemedy
"The following sections describe definitive patterns and test procedures for certain PMDs of this standard. Implementers using alternative verification methods must ensure adequate correlation and allow adequate margin such that specifications are met by reference to the definitive methods."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Make consistent accross Clauses 58, 59, and 60.

This solves the problem addressed at previous meetings where we have agreed that we want to allow test methods other than those described in the draft.

Cl **60** *SC* **60.8.1** *P* **225** *L* **38** # **731**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Table 60-11 needs more clarification for completeness.

SuggestedRemedy
Line 38: after "(example)" add pointer to another footnote:
"The first row precedes the second row and the sub-sequence is repeated 16 times. This pattern can be varied to cause the disparity to remain the same or flip.

p226 line 20: replace "TBD"s with "As defined in 3.2.8*ref* and 24*ref*".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Accept first part of remedy.

For now, replace "TBD"s with the footnote: "As defined in 3.2.8*ref* and 24*ref*".

Work needs to be done on filling in the actual numbers in the table.

Cl **60** *SC* **60.8.1** *P* **225** *L* **8** # **746**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
The second editors' note is obsolete.

SuggestedRemedy
Remove it.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.1** *P* **226** *L* **30** # **732**
Dawe, Piers Agilent

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

SuggestedRemedy
Change "multicast" to "broadcast".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.10** *P* **234** *L* **38** # **734**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
House style needs a "shall" in here.

SuggestedRemedy
Change sentence to: "The test pattern shall be as specified ...". Alter PICS OM7 to "With specified pattern".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.10** *P* **234** *L* **39** # **1456**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'e.g.' should be removed from sentence.

SuggestedRemedy
Change to read:
The test pattern is specified in 60.8.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change to read 'The test pattern is specified in 60.8.1, 59.9 or 58.8 as appropriate.'.
Check that 58.8.10 and 59.9.11 make appropriate reference to 60.8.10.

Cl **60** *SC* **60.8.11** *P* **235** *L* **15** # **735**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Cleaning up.

SuggestedRemedy
Remove the editors' note. Insert a permanent
NOTE - The length of the test pattern, low signaling rate and narrow rate tolerance of 100BASE-X means that the input and output patterns beat very slowly. Long test times or a slight modification to the length of one pattern may be appropriate."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.1** *P* **236** *L* **1** # **1457**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure does not meet IEEE style guide and should also be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

The figure is already in native FrameMaker format. Changes will be made according to IEEE style guide.

Make all Clause 60 figures conform to IEEE style guide.

Cl **60** *SC* **60.8.11.1** *P* **236** *L* **7** # **736**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
The signal generator and SUT don't have to be both tied to a common test pattern like this: e.g. counting CRC errors is fine.

SuggestedRemedy
Delete the arrowed line and the words "Test Pattern".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.1** *P* **237** *L* **31** # **737**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
In this text: "and that there is negligible mode selective loss, especially in the optical attenuator and the optical coupler, if used.":

SuggestedRemedy
Should it be qualified to be relevant to MMF only?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Text is only relevant to MMF.

Change sentence to read: "Care should be taken to ensure that all the light from the fiber is collected by the fast photo detector and (if using multimode fiber) that there is negligible mode selective loss, especially in the optical attenuator and the optical coupler, if used."

Cl **60** *SC* **60.8.11.2** *P* **238** *L* **14** # **1458**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Sentence doesn't read well.

SuggestedRemedy
Change to read:
Residual low-probability noise and jitter should be minimized, that implies the outer slopes of the...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.2** *P* **238** *L* **40** # **754**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
For 100BASE-X, probably a lesser fraction of ISI should be created by the filter, and more by the sinusoidal interferer.

SuggestedRemedy
Add more text to explain

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change to 'In general, the majority of the vertical eye closure penalty value should be created by use of a linear phase, low jitter filter (such as Bessel-Thomson). In the case of 100BASE-X, the majority of the vertical eye closure penalty value should be created by baseline wander or sinusoidal interference.'

Check that sinusoidal interferer and sinusoidal jitter limits and pulse shrinkage limit are still suitable for 100BASE-X.

Cl **60** *SC* **60.8.11.2** *P* **238** *L* **6** # **753**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Contradiction in terms: can't have a normative definition in an informative section.

SuggestedRemedy
Delete the word "normative".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.2** *P* **238** *L* **9** # **738**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Removing ambiguity following 802.3 interpretation meeting.

SuggestedRemedy
Change to "For this test, VECP is defined by the 99.95th percentile of the histogram of the lower half of the signal and the 0.05th percentile of the histogram of the upper half of the signal, and jitter is defined by the 0.5th and 99.5th percentiles of the jitter histogram."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.2** *P* **239** *L* **17** # **568**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
"vertical closure" should be "vertical eye closure penalty"

SuggestedRemedy
Change "vertical closure" to "vertical eye closure penalty"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.2** *P* **239** *L* **8** # **755**
Dawe, Piers Agilent

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

SuggestedRemedy
Change "be careful" to "care should be taken"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.3** *P* **240** *L* **10** # **756**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Can count errors by means other than BER.

SuggestedRemedy
Change "BER" to "errors".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.11.4** *P* **240** *L* **20** # **1459**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Seems to be showing an example of a reference.

SuggestedRemedy
Delete 'e.g. Table 60-6 or Table 60-8'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

What's the issue with an an example of a reference? Change to 'appropriate receiver table: Table 60-6, Table 60-8, Table 59-7, Table 59-9, Table 58-7 or Table 58-8.' Correct spelling of 'Sinusodial' in tables 59-7, 59-9.

Cl **60** *SC* **60.8.11.4** *P* **240** *L* **52** # **739**
Dawe, Piers Agilent

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

SuggestedRemedy
Extend note a: "SJ1 and SJ2 are defined as "sinusoidal jitter limits for stressed receiver conformance test (min, max)" in e.g. Table 60-6."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.12** *P* **241** *L* **34** # **741**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need to define t axis more completely.

SuggestedRemedy
Add sentence: "t = 0 at the mean crossing time which may be estimated as the mid-point between the 10-3 BER points."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.12** *P* **241** *L* **4** # **740**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Need to specify a pattern.

SuggestedRemedy
Add sentence: "The test pattern is specified e.g. in 60.8.1."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.12** *P* **242** *L* **5** # **1460**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 60-11 should conform to the IEEE style guide and also be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

The figure is already in native FrameMaker format. Changes will be made according to IEEE style guide.

Make all Clause 58, 59, and 60 figures conform to IEEE style guide.

Cl **60** *SC* **60.8.4** *P* **226** *L* **49** # **405**
Radcliffe, Jerry Hatteras Networks

Comment Type **T** *Comment Status* **D**
The specified measurement procedure requires an eye pattern for extinction ratio measurement. This clause specifies an alternate 1 0 pattern.

SuggestedRemedy
Change the phrase "the 4B/5B NRZI encoded idle (10101...) pattern." to "any valid balanced 4B/5B NRZI encoded data stream."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Replace 2nd sentence with: 'This quantity is defined for a node transmitting the 4B/5B NRZI encoded idle (10101...) pattern. The idle pattern may contain a low proportion of OAM frames. The extinction ratio is expected to be similar for other valid balanced 4B/5B NRZI encoded data streams.'

Cl **60** *SC* **60.8.5** *P* **227** *L* **26** # **1449**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Solid vertical line in Figure 60-3 between O/E converter and Filter.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

This solid bar is actually only a FrameMaker change bar and not a part of the document.

Cl **60** *SC* **60.8.5** *P* **227** *L* **39** # **1450**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Delete note. Appears to have been added for this version of the draft, but corresponding clauses should have the correct reference.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

It is not strictly required to include the references, but they are helpful to the reader.

Cl **60** *SC* **60.8.6** *P* **228** *L* **33** # **1451**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Again, delete the note. Applies to note in 60.8.7, 60.8.9, 60.8.10, 60.8.11 and last note of 60.8.12. Those clauses should have the correct references and references should only be applied in one direction.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

It is not strictly required to include the references, but they are helpful to the reader.

Cl **60** *SC* **60.8.6** *P* **228** *L* **33** # **747**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
Completing the applicability

SuggestedRemedy
"... applies to Clauses 52*ref*, 53*ref*, 58 ..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.7.1** *P* **229** *L* **5** # **1452**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Solid vertical line in 'Device under test' block.

SuggestedRemedy
Delete line.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.7.2** *P* **229** *L* **18** # **748**
Dawe, Piers Agilent

Comment Type **E** *Comment Status* **D**
House style

SuggestedRemedy
Delete the five "xxx:" in bold type. Merge the first and second, and fifth and sixth, paragraphs.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.8** *P* **230** *L* **16** # **749**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
This section could benefit from a tighter description, either explicitly or by reference to latest measurement standards.

SuggestedRemedy
I will try to bring specific suggestions to the meeting.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Check with the commenter for a more specific remedy.

Cl **60** *SC* **60.8.8** *P* **230** *L* **23** # **1453**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 60-5 needs to be in FrameMaker format. If it is, then font type and size need to conform to IEEE style guide.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The figure is already in native FrameMaker format. Changes will be made according to IEEE style guide.

Make all Clauses 58, 59, and 60 figures conform to IEEE style guide.

Cl **60** *SC* **60.8.8** *P* **231** *L* **23** # **750**
Dawe, Piers Agilent

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

SuggestedRemedy
Merge these two one-sentence paragraphs.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **60** *SC* **60.8.8** *P* **231** *L* **4** # **1454**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 60-6 needs to conform to the IEEE style guide and be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The figure is already in native FrameMaker format. Changes will be made according to IEEE style guide.

Make all Clauses 58, 59, and 60 figures conform to IEEE style guide.

Cl **60** *SC* **60.8.9** *P* **238** *L* # **99109**
Diab, Wael William Cisco Systems

Comment Type **TR** *Comment Status* **A** *D1.1 #694*
TDP is the appropriate method for evaluating PMDs. Nonetheless, given the speed of these PMDs and the short-term desire to implement solutions (as expressed in the original proposal presentations), an informative that relates traditional measurement techniques to TDP may help bridge the gap.

SuggestedRemedy
Specify an informative correlation between the TDP measurements and the eye mask and/or the jitter numbers

Proposed Response *Response Status* **U**
ACCEPT IN PRINCIPLE.

Needs more work by the ad-hoc & look at a jitter number for TP3.

Jitter numbers remain for 100BASE LX and BX as informative (with the exception of TP2 & TP3).

Cl **60** *SC* **60.8.9.2** *P* **233** *L* **12** # **751**
Dawe, Piers Agilent

Comment Type **T** *Comment Status* **D**
Does the polarisation rotator and reflector apply with MMF?

SuggestedRemedy
Clarify

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The polarisation rotator and reflector does not apply to MMF. Text needs to be modified accordingly.

Cl **60** *SC* **60.8.9.2** *P* **233** *L* **18** # **752**
Dawe, Piers Agilent

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

I wonder if this sentence could be misleading; the overall attenuation is not minimised (there's an attenuator) and the BERT's receiver sensitivity is exercised, although it does not have to be very sensitive

SuggestedRemedy

Delete the sentence?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change text to "The BERT's receiver sensitivity must be sufficiently adequate to meet BER with the worst-case test signal and minimum attenuation."

Cl **60** *SC* **60.8.9.3** *P* **233** *L* **41** # **1455**
Booth, Brad Intel

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

Need hyphen between single and mode.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change this thoughout clauses 58, 59, and 60.

Cl **60** *SC* **60.8.9.3** *P* **239** *L* **6** # **99110**
Thatcher, Jonathan World Wide Packets

Comment Type **TR** *Comment Status* **A** *D1.1 #861*

the BER should be less than, not greater than 10e-3.
Also, in line 1, -3dBe ?

SuggestedRemedy

Change per comment

Proposed Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

This issue needs more disicussion in the ad-hoc.

Cl **60** *SC* **60.8.9.3** *P* **35** *L* **35** # **733**
Dawe, Piers Agilent

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

Clarification

SuggestedRemedy

Change sentence to: "The center of the eye is defined as the time halfway between the left and right sampling points within the eye where the measured BERs are equal to each other, and greater than or equal to 10-3 (the BER at the eye center is much lower)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **60** *SC* **60.9.5** *P* **242** *L* **54** # **1461**
Booth, Brad Intel

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

100BASE-BX10-U should all be on one line.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **60** *SC* **Figure 60-5n** *P* **230** *L* **249** # **880**
Tom Mathey Independent

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

The figure "Transmitter eye mask definition" looks awful. The important information is all pushed together, and the don't care about information is shown with lots of clarity. The important part that there is a break in the line is obscured.

SuggestedRemedy

Use the nice looking figure from p.199, Figure 59-4, and apply edits.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There will be a beauty contest at the meeting.

Cl **60** *SC* **Figure 60-8** *P* **236** *L* **7** # **881**
Tom Mathey Independent

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

SuggestedRemedy
delete, EFM clauses are not 10Gig.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Put WIS within brackets.

Cl **60** *SC* **Table 60-11** *P* **225** *L* **33** # **543**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Source address is TBD

SuggestedRemedy
Believe the source address will be variable, but we better check with the logics people.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Need to check

Cl **60** *SC* **Table 60-11** *P* **226** *L* **20** # **544**
Jonsson, Ulf Ericsson

Comment Type **T** *Comment Status* **D**
Frame check sequence undefined

SuggestedRemedy
Check with logics people.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. See comment 731

Cl **60** *SC* **Table 60-8** *P* **223** *L* **23** # **546**
Jonsson, Ulf Ericsson

Comment Type **E** *Comment Status* **D**
Footnote 'a' is a bit unclear

SuggestedRemedy
Change footnote to read:

"The receiver wavelength range of 100BASE-BX10-U is wider than the associated transmitter to allow interoperation with existing implementations of 100 Mb/s bi-directional transceivers."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* *P* *L* # **1508**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Multiple figures, tables, lists and equations either have a problem with their anchor points or do not follow the IEEE style guide.

SuggestedRemedy
Review each figure, table, list and equation to verify that they conform to the style guide and that figures and tables are not in the middle of a paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* *P* **251** *L* **1** # **1471**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
Clause heading is not really representative of the text in the clause. The clause is only the PCS, whereas the PMA and PMD are specified in 62 and 63.

SuggestedRemedy
Change to read:
Physical Coding Sublayer (PCS), type 10PASS-T and 2BASE-T

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Clause heading was changed in resolution of Comment #659/D1.3, to reflect the fact that handshaking is also part of this Clause.

Cl **61** *SC* *P* **252** *L* # **1115**

Simon, Scott — Cisco Systems, Inc.

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

A complete discussion and explanation of the port subtypes "-O" and "-R" is needed. The reader does not really understand what these subtypes do.

SuggestedRemedy

C61 editor should expand on the text in 45.1 and write a subclause to introduce the sub types and how they relate and operate. Be sure to describe how the VOC channel is used to carry control and management information across the link.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Iinformation about the CO and CPE subtypes can be found in 61.1.5.5. The VOC channel is specific to the operation of 10PASS-TS.

Cl **61** *SC* *P* **254** *L* **39** # **886**

Tom Mathey — Independent

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

Text states

"Data is transferred across the gamma-interface at the speed of the lower layers."
which is in conflict with p.255 line 53 which states
"TPS-TC also provides clock rate matching."
which is in conflict with
Figure 61-2 which shows clock domain crossing at the MAC-PHY Rate Adaptation layer.

There may be other conflicts.

SuggestedRemedy

My preference is that for the transmit path, the write side of the fifo/buffer is at the input to the 64/65 encapsulation layer and uses the MII clock rate, and the read side is at the output of the 64/65 encapsulation and uses the PMA clock. Receive path reverses the write/read clocks.

Thus the cross-hatch in figure 61-2 should split the TPS-TC block.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Bit rate domains and clock rate domains don't coincide; although the higher layer provides the clock on the gamma-interface, the TPS-TC doesn't necessarily pull/push an octet in every clock cycle. The PMD bit rate is therefore really only decoupled from the MII bit rate at the MAC/PHY Rate Adaptation function.

The PMD clock is used in the PMD and PMA sublayers, and transmitted to the TPS-TC over the alpha(beta) interface. The statement that the TPS-TC provides clock rate matching is therefore correct.

Editor shall clarify text in 61.1.4.1 to clarify these issues.

Cl **61** *SC* **00** *P* **0** *L* **0** # **854**

Carlo, James — J.Carlo Consulting sup

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

General Comment. Some places use alpha(beta) and some places use alpha/beta when describing the interface. Do a search and use one or the other.

SuggestedRemedy

Consistent use of alpha/beta interface.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Editor shall consistently use alpha(beta)-interface (Greek letters), as is done in T1.424/Trial-Use Part 1 subclause 9.2.

Cl **61** *SC* **61** *P* **252** *L* **1** # **885**

Tom Mathey Independent

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

Clause 61 is silent about ability to specify the delay thru the phy necessary to support PAUSE operation.

SuggestedRemedy

Add text. Develop formula for delay based on line rate. Allow for aggregration. Map to MMD bits.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

PAUSE operation is not applicable, because the MAC will operate in half-duplex mode when interfacing with a 2BASE-TL or 10PASS-TS PHY.

Referenced documents T1.424/Trial-Use and ITU-T Rec. G.991.2 provide information about end-to-end delay. This delay depends on parameters such as interleaver depth, and on the use of repeaters.

See also comment #1017.

Cl **61** *SC* **61** *P* **252** *L* **1** # **883**

Tom Mathey Independent

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

All ethernet phy's have the following characteristic:

If the local device can not "hear" from the remote partner and establish a link status = pass / up / enabled, then the local device blocks the transmit path from sending any MAC data, and the receive path provides only idles to the MAC. When the receive link status is fail, then only idles or auto-negotation is allowed on the transmit path. When the receive link status is fail, then not blocking MAC data allows a unidirectional link which is really bad for internetworking. Bridges and routers become very unhappy in this case. Bridges/routers is the only type of device that the CPE at the subscribers home will connect to.

10BASE-T uses only idles for this case. 100BASE got more capability. When the local device can not "hear" signals from the remote partner and establish a link status = ok, up, pass; then a special code named remote fault is sent on the transmit path towards the remote device using the fast link pulses of auto-negotation. 1000BASE is similar.

10Gig got even smarter and introduced a better concept of and execution of local fault, remote fault, LR/RF; and placed the RS on the MAC side of the world. Also, lots of MMD bits, level and latching, are proveded for status reporting. A 10Gig phy which receives remote fault then blocks the transmit path such that only idles are sent, see 46.3.4 Link fault signaling. An example of codes that a phy without auto-negotation needs to transport is shown in Table 46-4. The sequence set is LF/RF.

Clause 61 needs to introduce and execute this concept.

SuggestedRemedy

1. Provide code point for both local and remote fault; LF, RF. Remote fault is sent when link status is fail.
2. Map remote fault and link status to MMD bits.
3. Provide text that transmit MAC frames are blocked when the link is down. This will force remote partner to block its MAC frames and send constant idles. Borrow text from base standard in clause 46.3.4.
4. As an unavoidable consequence, the scrambler of 61.2.3.3.1 and descrambler of 61.2.3.3.2 are thus deleted. This function as introduced due to the assumption that the remote partner could transmit continuous MAC frames when the local device had link status = fail, and the local device could then not achieve synchronization.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1/2. Clause 22 style "link status" register will be defined as the logical AND of all existing signals that indicate normal operation.

3. If PMA (alpha/beta-interface) should ask for transmit data while link status is down, the TPS-TC will feed it idles.

4. Scrambler is used to improve detection of 65B codeword boundaries; this presumes byte synchronization. It mustn't be removed.

Cl **61** *SC* **61** *P* **252** *L* **1** # **884**

Tom Mathey Independent

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

Clause 61 is silent about ability to support Clause 57 uni-directional links.

SuggestedRemedy

Add support for Clause 57 uni-directional links. See p.104 for guidance.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Support for unidirectional links will not apply to 2BASE-TL and 10PASS-TS. Indicator bits will show when something goes wrong in one particular direction, but a sustained failure will lead to a retrain.

Cl **61** *SC* **61.1** *P* **252** *L* **3** # **1472**

Booth, Brad Intel

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

Unless referring to the port type or PMD, all instances of 10PASS-TS and 2BASE-TL should only refer to the PCS type.

SuggestedRemedy

Change 10PASS-TS to be 10PASS-T, and change 2BASE-TL to be 2BASE-T.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The names 10PASS-TS and 2BASE-TL were confirmed in resolution of comments #491/D1.3 and #661/D1.3, for use in Clauses 61-63. There is no particular agreement (or need) to use a different name for the common PCS.

Cl **61** *SC* **61.1** *P* **252** *L* **3** # **1473**

Booth, Brad Intel

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

Change first sentence to read:

This clause specifies the Physical Coding Sublayer (PCS) that are common to a family of Physical Layer implementations for Ethernet over voice-grade copper known as 10PASS-T and 2BASE-T.

SuggestedRemedy

As per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change first sentence to read:

This clause specifies the Physical Coding Sublayer (PCS) and handshaking mechanisms that are common to a family of Physical Layer implementations for Ethernet over voice-grade copper known as 10PASS-TS and 2BASE-TL.

Cl **61** *SC* **61.1** *P* **252** *L* **4** # **1474**

Booth, Brad Intel

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

Most of this section refers to the PHYs and more specifically the PMDs. This is a PCS clause and should contain information related to the PCS.

SuggestedRemedy

See Clause 24, specifically 24.1 and 24.1.1, for an example of how this should be documented.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The current title of Clause 61 indicates that it specifies PCS as well as common specifications.

Cl **61** *SC* **61.1.2** *P* **252** *L* **31** # **853**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D**
Comment a), standing alone to a casual observer who opens the book, would seem to indicate that 2BASE-TL and 10PASS-TS have 100Mbps data rate. I would possibly either state:
a) To provide burst 100 Mb/s data rate at the MII.
or
a) To provide 100 Mbps data rate at the MII using Rate Matching.

SuggestedRemedy
a) To provide burst 100 Mb/s data rate at the MII.

or

a) To provide 100 Mbps data rate at the MII using Rate Matching.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Change objective to:
a) To provide 100 Mbps data rate at the MII using Rate Matching.

Cl **61** *SC* **61.1.2** *P* **252** *L* **35** # **1475**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Footnote d needs some clean up.

SuggestedRemedy
Change 'bit error rate' to be 'BER'. Change 'one in part in 10^7' to be '10^-7'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.2a** *P* **252** *L* **31** # **607**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
What about 10Mb ?

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
A rate of 100Mb/s at the MII is required to allow line rates greater than 10Mb/s. A payload rate of 10Mb/s is a specific objective of 10PASS-TS, as listed in 62.1.2.

Cl **61** *SC* **61.1.2a** *P* **252** *L* **32** # **608**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Its confusing to state that full duplex operation is provided if the MAC is configured for half duplex to support deference.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
The MAC is indeed capable of transmitting and receiving at the same time, even when it is configured in half duplex mode, as explained in 61.1.4.1.1.

Cl **61** *SC* **61.1.3** *P* **253** *L* **1** # **1477**
Booth, Brad Intel

Comment Type **TR** *Comment Status* **D**
Figure is needs to be re-drawn to meet 802.3 common diagram. See any previous clause or 802.3 for example.

SuggestedRemedy
Fix.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4** *P* **252** *L* **48** # **1476**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
61.1.4 and 61.1.4.1 should be kept with related text.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Subclause titles 61.1.4 and 61.1.4.1 will be moved closer to related text if possible (Editors have limited power over the place of figures and tables).

Cl **61** *SC* **61.1.4.1** *P* **253** *L* **26** # **1478**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Large blank space needs to be eliminated. Probably caused by frame properties associated with Figure 61-2.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **3** # **1479**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Missing period at end of sentence.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **33** # **1481**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
xDSL is unspecified.

SuggestedRemedy
Define abbreviation before using it.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Add xDSL to abbreviations list.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **39** # **595**
Debbasch, Bernard GlobespanVirata

Comment Type **E** *Comment Status* **D**
the clocks in the in the shaded area

SuggestedRemedy
the clocks in the shaded area

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Need specific remedy.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **40** # **1482**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Use of 'interface' with 'MII' is redundant.

SuggestedRemedy
Change 'MII interface' to 'MII'. Search clause for other instances and correct.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **5** # **1480**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 61-2 is confusing.

SuggestedRemedy
Change figure to show one primary stack with the sublayer components and interfaces. Use text to explain the functions.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
There's a lot of information in this figure, but is it really that confusing?

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **50** # **994**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Grammatical nit:

"... it can be process ..." is the incorrect use of the present tense in a conditional.

SuggestedRemedy
Change to

"... it can be processed ..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **54** # **995**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
The phrase "The preamble and SFD bytes are regenerated..." might be taken to imply that the original bytes are somehow restored at the far end of the link.

SuggestedRemedy
Change the opening of the sentence to

"A preamble and SFD byte are generated..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1** *P* **254** *L* **6** # **993**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
In Figure 61.2 the text describes TC clients in a position where MAC clients might be expected...

SuggestedRemedy
Change text:

"up to 31 optional additional TC clients (blocks above ã -interface)"

to

"up to 31 optional additional MAC clients"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
The callout tries to express that the entire block from the gamma-interface up to the MAC Client is replicated up to 31 times. There is no common name for "the entire block from the gamma-interface up to the MAC Client", but since it sits on top of the TC layer, it makes sense to call it the TC client.
Editor to move callout to make its intent clearer.

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **12** # **1484**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete '[see Clause 4]' from 2nd paragraph.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **16** # **1485**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
3rd paragraph is unclear.

SuggestedRemedy
Change to read:
The MAC transmit data at a rate of 100 Mb/s, which is buffered by the PCS before being transmitted onto the medium. Prior to transmission, the MAC operating in half duplex mode checks CRS and will not transmit another frame as long as CRS is asserted. In order to prevent the PCS's transmit buffer from overflowing, the PCS keeps CRS asserted until it has space to receive a maximum length frame. The PCS forces COL to logic zero to prevent the MAC from dropping the frame and performing a re-transmission.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Change "The MAC transmit data" to "The MAC transmits data".

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **24** # **996**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Speling eror:

"Maching"

SuggestedRemedy
Change to:

"Matching"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #1486.

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **24** # **1486**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Spelling.

SuggestedRemedy
Change 'Maching' to 'Matching'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #996.

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **38** # **1487**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Delete 'subclause'. Also applies to 61.1.4.1.3, page 255, line 54.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Delete the word "subclause" (rather than the entire subclause).

Cl **61** *SC* **61.1.4.1.1** *P* **255** *L* **7** # **1483**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Update first paragraph.

SuggestedRemedy
Change to read:
The 10PASS-T and 2BASE-T PCS is specified to work with a MAC operating at 100 Mb/s using the MII as defined in Clause 22. The PCS matches the MAC's rate of data transmission to the transmission data rate of the medium.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Add the word "slower" to the suggested remedy.
"The 10PASS-TS and 2BASE-TL PCS is specified to work with a MAC operating at 100 Mb/s using the MII as defined in Clause 22. The PCS matches the MAC's rate of data transmission to the slower transmission data rate of the medium."

Cl **61** *SC* **61.1.4.1.2** *P* **255** *L* # **609**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Flow control via PAUSE mechanism is prefered over CRS way.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
CRS deference was adopted by the Task Force as part of the Copper baseline in March 2002:
"Adopt presentations fosmark_1_0302.pdf, marris_1_0302.pdf, simon_1_0302, as the basis of the first draft." (Y:94 N:0 Abs:33)
Prior to this vote, the Task Force has had the opportunity to discuss various alternatives, including the one proposed here (see presentation material from November 2001 and January 2002 meetings).

Cl **61** *SC* **61.1.4.1.3** *P* **255** *L* **51** # **596**
Debbasch, Bernard GlobespanVirata

Comment Type **E** *Comment Status* **D**
of the PCS and alpha/beta interface of

SuggestedRemedy
use alpha/beta in notation rather than the text

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.4.2** *P* **256** *L* **9** # **1488**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
This applies more to Clauses 62 and 63.

SuggestedRemedy
Move information to those clauses.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Since handshaking is common to 2BASE-TL and 10BASE-TS, it belongs in the Clause which deals with common specifications, i.e. here in Clause 61.

Cl **61** *SC* **61.1.5.3** *P* **256** *L* **31** # **451**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Remove empty 61.1.5.3

SuggestedRemedy
If she's empty, yank 'er.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
In the absence of proposed text, the subclause title shall be removed.

Cl **61** *SC* **61.1.5.4** *P* **256** *L* **44** # **997**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Typo:

The loops (PMA/PMD instances) are not aggregated into a particular PMD - it should be PCS. Also we have been replacing the term "loop" with PMI.

SuggestedRemedy
Change sentence to:

"The PMD Available register controls which PMIs (PMA/PMD instances) may be aggregated into a particular PCS (and MII)."

The same again in line 48:

"i.e. which loops (PMA/PMD instances) are being aggregated into the particular PMD.""

Needs to change to:

"i.e. which PMIs (PMA/PMD instances) are being aggregated into the particular PCS."

Note also that the instances of PMD on lines 44, 45, 46

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4** *P* **256** *L* **46** # **1489**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
zero'd is not 802.3 terminology.

SuggestedRemedy
Change to be either 'cleared to zero' or 'set to zero'.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Replace "zero'd" with "set to zero".

Cl **61** *SC* **61.1.5.4** *P* **256** *L* **48** # **452**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Spurious " at end of line 48.

SuggestedRemedy
Remove it.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4** *P* **256** *L* **48** # **1490**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Floating quotation mark at end of sentence.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
Duplicate of comment #452.

Cl **61** *SC* **61.1.5.4** *P* **256** *L* **49** # **1491**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Text seems to imply that a note is required. Delete last sentence of 2nd paragraph, and format 2nd to last sentence as a note. Format 3rd paragraph as a note.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Delete last sentence of 2nd paragraph, and format 2nd to last sentence as a note.
Delete the first sentence of the 3rd paragraph. (The 3rd paragraph contains two instances of "shall", which gives it the status of a requirement, not a note.)

Cl **61** *SC* **61.1.5.4** *P* **257** *L* **1** # **1492**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
'(or no)' has no context.

SuggestedRemedy
Delete.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Replace "one (or no) MII" with "at most one MII".

Cl **61** *SC* **61.1.5.4.1** *P* **257** *L* **16** # **1493**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 61-3 needs to follow IEEE style guide plus be in FrameMaker format.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #1497.

Cl **61** *SC* **61.1.5.4.1** *P* **257** *L* **21** # **998**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
In Figure 61.3, the PCS instance labeled "PCS 32" should be labeled "PCS x"

SuggestedRemedy
Change 32 to x

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.1** *P* **257** *L* **8** # **887**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
1. The paragraph "Addressing PCS and PMA/PMD instances" states:
"The addressing of the MDIO management interface is defined in 45.1.", which is a true statement.

The clause 45 text is:
"Throughout this clause, an a.b.c format is used to identify register bits, where a is the device address, b is the register address, and c is the bit number within the register."

2. However, this paragraph does not follow the naming conventions of 45.1. This paragraph uses:
<port address>.a.b as the naming convention.

3. Port addresses are numbered as 0 to 31. However, this paragraph uses numbers 1 to 32.

SuggestedRemedy
In all places where necessary, use <port address>.a.b, include <> to distinguish from cases of a.b.c.
Provide text in 45.1 that defines <port address>.a.b.
Revise text and figures for 0 to 31 vs 1 to 32.
Provide text that states for this naming convention, each PCS consumes one of the 32 available port address as users expect otherwise.
Users do not expect to use up a complete port address just to access a single register.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **257** *L* **51** # **453**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
We say there's a "copy" of the PMD Available register. The word "copy" is misleading as the values are different for each PAF instance.

SuggestedRemedy
Change "copy" to "version".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Change "copy" to "instance".

Cl **61** *SC* **61.1.5.4.2** *P* **257** *L* **51** # **1494**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Need to insert a space between 'Figure 61-2,' and 'which'. Change 'which' to 'that'.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Need to insert a space between 'Figure 61-2,' and 'which'.

Cl **61** *SC* **61.1.5.4.2** *P* **257** *L* **6** # **455**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Have MAC-32 when only go up to 16 MIIs in text

SuggestedRemedy
Change MAC-32 to MAC-16.

This is true for Figures 61-4 and 61-5.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #999 and #533.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **1** # **454**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Say "aggregated into" when talking about the PMD available register, which really just describes potential aggregation and not actual aggregation.

SuggestedRemedy
Change "aggregated into" to "available for"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **42** # **1000**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Example b) shows 4 PMIs connected to 2 MIIs, yet it is described as "pairs of 2 to 1 connections"

It would be better to call them 4 to 1 connections as each MII aggregates (up to) 4 PMIs.

SuggestedRemedy
Change "pairs of 2 to 1 connections"

to "pairs of 4 to 1 connections"

Ditto page 260, line 13.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **44** # **1496**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Extra space between Figure 61-5 and period.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **46** # **1001**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
To be consistent with the other descriptions, 24 PMIs aggregated into 12 MIIs should be described as 24-to-12

SuggestedRemedy
Change 12-to-24 to 24-to-12

Ditto Page 260, line 30

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **5** # **1495**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 61-4 needs to follow IEEE style guide and be in FrameMaker format. Also, figure and Table 61-1 are in the middle of a paragraph.

SuggestedRemedy
Update figure and change anchor points for figure and table.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Editor has limited power over Figure and Table places.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **53** # **456**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Say "MII only connects through 1 MII".

SuggestedRemedy
I think the 2nd occurence of MII should be PMI.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **6** # **999**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Figure 61-4 shows a system with 16 MAC/MIIs and 32 PMA/PMD/PMIs - therefore the last MAC should be labeled MAC 16 (not 32).

SuggestedRemedy
Change MAC-32 to MAC-16

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #455 and #533.

Cl **61** *SC* **61.1.5.4.2** *P* **258** *L* **6** # **533**
Shohet, Zion Infineon

Comment Type **E** *Comment Status* **D**
on figure 61-4-2, only 16 MAC's are relavant

SuggestedRemedy
Replace "MAC-32" with "MAC-16".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comments #455 and #999.

Cl **61** *SC* **61.1.5.4.2** *P* **259** *L* **1** # **1497**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 61-5 needs to follow IEEE style guide and be in FrameMaker format. Figure and Tables 61-2 and 61-3 are also in the middle of a paragraph.

SuggestedRemedy
Reformat figure and change anchor points for figure and tables.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #1493.

Cl **61** *SC* **61.1.5.4.3** *P* **260** *L* **1** # **1498**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Tables 61-4, -5 and -6 should be grouped together after the list.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See also comments #1493 and #1497.

Cl **61** *SC* **61.1.5.5** *P* **260** *L* **54** # **1499**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Do not need to reference the clause after mentioning it. Search for all [ ] and remove, and remove related reference if also specified in the body of text.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
The references in [] are there for the convenience of the Editor and Editor-in-Chief, and will be replaced with actual cross-references in due time.

Cl **61** *SC* **61.1.5.5** *P* **261** *L* **5** # **457**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Why are we using -O and -R instead of -C and -R as in G994.1, G991.2, etc. If this was explicitly discussed and decided otherwise, ignore.

SuggestedRemedy
Suggest we use -C instead of -O unless there's reason (if someone can tell me why I'll go quietly).

Proposed Response *Response Status* **W**
PROPOSED REJECT.
These names were introduced in resolution of comment #678/D1.3. The -O suffix is common in VDSL specifications.

Cl **61** *SC* **61.10** *P* **316** *L* **26** # **1020**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
This subclause should be removed

SuggestedRemedy
Delete subclause 61.10

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
In the absence of proposed text, the subclause title shall be removed.

Cl **61** *SC* **61.11** *P* **316** *L* **30** # **528**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Change of Clause title is not reflected in PICS title.

SuggestedRemedy
Insert "and common specifications" before "type 10PASS-TS, 2BASE-TL".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.11.4** *P* **316** *L* **42** # **529**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Change of Clause title is not reflected in PICS title.

SuggestedRemedy
Insert "and common specifications" before "type 10PASS-TS, 2BASE-TL".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.1.3.2** *P* **262** *L* **20** # **1500**
Booth, Brad Intel

Comment Type **T** *Comment Status* **D**
COL is a signal of the MII and should be specified.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
I propose adding this to 61.2.1.2.1 rather than 61.2.1.3.2.
Add text to 61.2.1.2.1 "COL shall be forced to logic zero by the PCS."

Cl **61** *SC* **61.2.1.3.2** *P* **264** *L* **19** # **888**

Tom Mathey Independent

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

Variable "power_on" and "reset" are used in state diagrams without a definition.

SuggestedRemedy

Copy from an existing clause and place in 61.2.1.3.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add the following to 61.2.1.3.2:

power_on:

Condition that is true until such time as the power supply for the device that contains the PCS has reached the operating region. The condition is also true when the device has low power mode set

via control register bit 3.0.11.

Values:

FALSE; The device is completely powered (default).

TRUE; The device has not been completely powered.

Reset:

True when the PCS is reset via control register bit 3.0.15.

Cl **61** *SC* **61.2.2** *P* **263** *L* **34** # **1002**

Barrass, Hugh Cisco Systems

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

Editor's note call for aggregation enable control to be defined.

SuggestedRemedy

Delete editor's note on line 34...

Add a subclause (which will be 61.2.2.1) immediately before the current 61.2.2.1

61.2.2.1 PAF Enable and Bypass

For systems that do not have the ability to aggregate loops PAF_available will not be asserted. Additionally, a system may have PAF_available asserted but PAF_enable will be deasserted to indicate that aggregation is not required.

In both of these cases, the entire data frame is passed across the gamma interface to the TPS_TC without any fragmentation. On the receive side, entire data frames are transferred from the gamma interface to the MAC-PHY rate matching function without any reference to the PAF error detecting rules (see 61.2.2.5). If an error has been detected by the FCS in the TC then the MAC-PHY rate matching function shall assert RX_ER during at least one byte of the frame across the MII.

Systems that have the ability to aggregate but are not enabled for aggregation will have the connectivity between the PCS and one PMI set either by default, by local management (for CO-subtype devices) or by remote management (for CPE-subtype devices). This will define which gamma interface is used for the transfer of non-fragmented frames. Refer to 61.2.2.6.3 for the function of PAF_available and PAF_enable and Clause 45 for access to these registers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2** *P* **34** *L* **263** # **923**

O'Mahony, Barry Intel Corp.

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

Editor's noe specifies that an indication of aggregation availability is needed

SuggestedRemedy

Add NPar(2) bit in 2BASE-TL and 10PASS-TS fields in order to indicate aggregation availability.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Note that comment #1002 requires 2 bits - available & enable.

Cl **61** *SC* **61.2.2.1** *P* **264** *L* **1** # **1501**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figures 61-7, -8 and -9 are in the middle of a paragraph.

SuggestedRemedy
Change anchor properties.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Anchor points for 61-7, 8 & 9 are all at the end of 61.2.1.3.4 (the subclause that references them).

Cl **61** *SC* **61.2.2.1** *P* **266** *L* **25** # **534**
Shohet, Zion Infineon

Comment Type **T** *Comment Status* **D**
short packets may be transported over a single fragment, and consequently both StartOfPacket and EndOfPacket might be set to '1' simultaneously

SuggestedRemedy
add the following sentence: "Note that short packets may be transported over a single fragment, and consequently both StartOfPacket and EndOfPacket might be set to '1' simultaneously."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.1** *P* **266** *L* **29** # **458**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Being picky here, but the lines in the figure don't line up

SuggestedRemedy
This comment is true of 61-9 and61-10 where horizontal lines seem to be off by a millimeter or two. Would be nice if things didn't look staggered.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Editor needs to tidy up diagrams.

Cl **61** *SC* **61.2.2.2** *P* **266** *L* **36** # **890**
Tom Mathey Independent

Comment Type **T** *Comment Status* **D**
The PHY PMI AGGREGATION Transmit function requies a unreasonable amount of intelligence in how to split a frame into multiple pieces and at the same time not violate the minimum and maximum fragment size restrictions. The required intelligence can be greatly reduced with a little bit of preplanning. If the last fragment is allowed to be any size less than 64 bytes, and is only sent to the 64/65 byte encapsulation layer such that the sync byte is someplace within the fragment, then all of the encapsulation rules, transmit and receive, can be followed and the world is happy.

SuggestedRemedy
Allow last fragment to be less than minFragmentSize, transfer to encapsulation layer with proper timing.
This affects a few paragraphs such as 61.2.2.4, page 268, line42.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

It is not clear how encapsulation and decapsulation will handle a fragment which is less than 64 bytes.

It is true that some scenarios may work easily, but to cover all cases the PAF would need to know the precise state of the encapsulation - which is a layer violation.

Cl **61** *SC* **61.2.2.2** *P* **266** *L* **40** # **1059**
Cravens, George Mindspeed

Comment Type **T** *Comment Status* **D**
Fragment size should be allowed to include minFragmentSize and maxFragmentSize.

SuggestedRemedy
Change text to:

Select the number of bytes to transmit on that PMI (shall not be less than minFragmentSize nor greater than maxFragmentSize).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.2** *P* **266** *L* **41** # **459**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
The variables min/max fragment size should be referenced

SuggestedRemedy
Add reference to 61.2.2.4 in (b).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.3** *P* **267** *L* **18** # **1502**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Figure 61-11 doesn't follow IEEE style guide and needs also to be in FrameMaker.

SuggestedRemedy
As per comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Editor needs to apply IEEE style. The Figure is already in FrameMaker.

Cl **61** *SC* **61.2.2.3** *P* **268** *L* **14** # **535**
Shohet, Zion Infineon

Comment Type **E** *Comment Status* **D**
This sentence is duplicated and includes numbers that are wrong and inconsistent with line 40. Better to delete this sentence.

SuggestedRemedy
Delete this sentence.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

This sentence has a different function to the specification in line 40. In this position we have an informational statement regarding the approximate receive buffer requirements. In line 40 we have a normative requirement for the transmitter regarding the maximum differential latency (which is one component of the equation needed to calculate the precise buffer requirement). The two are linked but not duplicates.

The number for 2BASE-TL should be 2^13 (not 2^12), based on line 40 requirements.

Cl **61** *SC* **61.2.2.3** *P* **268** *L* **15** # **461**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
I still have confusion over the maxDifferentialDelay and buffering requirements. We say on P268 L15 that the max buffer requirements are:
2BASE-TL: 4K bits
10PASS-TS: 16K bits
We say on P268 L 41 that the maxDifferentialDelay is
2BASE-TL: 8000 bit times
10PASS-TS: 15000 bit times
The use of the decimal and binary metrics is one point of my confusion. The other is the relationship between the buffer requirements and the differential delay.

SuggestedRemedy
I thought we accepted 8K and 16k as the differential delays (and buffering requirements) last time.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment # 535.

Cl **61** *SC* **61.2.2.3** *P* **268** *L* **9** # **460**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
Should probably expand the handling of the fragments into the fragment buffer.

SuggestedRemedy
New (c):
(c) Accept the fragment into the fragment buffer. If (accepting the fragment into the fragment buffer causes an overflow) or (the fragment is an unexpected start of packet) or (the fragment is an unexpected end of fragment) then follow the error handling procedures described in 61.2.2.5.

Might need to add another block to 61-11 for fragment error handling as well?

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Also add error conditions into 61-11.

Cl **61** *SC* **61.2.2.3** *P* **276** *L* **18** # **900**

Tom Mathey Independent

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

For a function as complex as the encapsulation layer, one or more state diagrams are provided. This eliminates much confusion.

SuggestedRemedy

Provide sate diagram for 64 byte / 65 byte encapsulation layer.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

It is not clear where a state machine exists that requires a diagram.

The structure of this subclause seems similar to Clause 49 (64b/66b PCS) which has a similar function.

Cl **61** *SC* **61.2.2.4** *P* **268** *L* **26** # **514**

Beck, Michael Alcatel Bell nv

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

According to the IEEE Standards Style Manual, the word "shall" is used to indicate mandatory requirements. This sentence expresses a capability of the PMD control; specifying a requirement for the PMD control is outside the scope of this standard.

SuggestedRemedy

Replace sentence with: "The PMD control of aggregated links controls the maximum latency difference between any two aggregated links."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.4** *P* **268** *L* **43** # **467**

Squire, Matt Hatteras Networks

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

Unclear whether min/max fragment sizes include PAF header. I believe the numbers are without headers, but please clarify.

SuggestedRemedy

Need to clarify that min/max fragment sizes are without PAF header.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The min and max fragments may be defined with or without PAF header. It seems logical that they should be defined "with" rather than "without" since that is how the encapsulation sees them. However, the math in the PAF is easier if they are counted "without."

Change definitions on P.268, line 42:

b) Fragments shall not be less than 64 Bytes not including PAF header (minFragmentSize).
c) Fragments shall not be more than 512 Bytes not including PAF header (maxFragmentSize).

Cl **61** *SC* **61.2.2.5** *P* **268** *L* # **892**

Tom Mathey Independent

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

The paragraph "Error-detecting Rules" has a lot of text. After reading the text, it is not credible that all of the error conditions would be covered. Normally a state diagram, or perhaps a table, is used instead of text to completely describe a complex activity.

SuggestedRemedy

Define the path thru the error conditions with a state diagram.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

I am not sure that a state diagram will add more information than 61-11 already contains, but tabulation of errors may help.

Cl **61** *SC* **61.2.2.5** *P* **268** *L* **54** # **462**
Squire, Matt Hatteras Networks

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

I think it would make the section easier to read if we had each stage (during fragment reception, during fragment sequencing, etc.) have a header instead of a non-bold sentence fragment as the delimiter.

SuggestedRemedy

Make
61.2.2.5.1 Errors during fragment reception
61.2.2.5.2 Errors during fragment sequencing
61.2.2.5.3 Errors during packet re-assembly

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.5** *P* **268** *L* **54** # **1503**
Booth, Brad Intel

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

Need new sub-headings.

SuggestedRemedy

Change 'Errors during fragment reception:' to be '61.2.2.5.1 Errors during fragment reception'. Change 'Errors during fragment sequencing:' to be '61.2.2.5.2 Errors during fragment sequencing'. Change 'Errors in packet reassembly:' to be '61.2.2.5.3 Errors in packet reassembly'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #462

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **19** # **464**
Squire, Matt Hatteras Networks

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

I disagree with the processing here. Let's think about what happens given this description. Something <very bad> happens to cause the next sequence number to be out of the expected window. We handle this by individually discarded fragments until the next sequence number re-appears in the window. This could be 2^13 fragments of 512B each (4MB). Thats much discardo.
In some failure scenerios, this handling is ok. For example, if you just had a screwy sequence number on one fragment but then things got back to normal.

Note this thing should not happen often, given the oodles of protection we have on the fragments (CRC32 + 10-7 BER etc), but if it does we should be safe.

But when we're screwed up enough to have a bad expectation, then it costs LOTS to re-sync.

SuggestedRemedy

The other option seems to be flush all of the queues and re-start. This could result in losing (#lines * maxBufferSize) of data loss, 2^5 * 2^14bits (64KB) on 10PASS-TS or 2^5 * 2^13 (32KB) of data loss.

And its a hell of a lot faster (instantaneous vs walking thru potentially 2^13 fragments). Yawn.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

I don't think this genuinely simplifies the implementation. In general, it is much easier to perform a simple action repeatedly than to perform a complex action. If you consider that the damaged packet sequence may not be detected until some time after the event which cause the damage (i.e. a noise burst), at the time of detection there may well be valid data streaming in.

Given the scenario with differing latencies, it is not clear that the action of flushing all buffers when a sequence error is detected will ever cause convergence - you will destroy the fragments that you need from the earlier loops before the later loops arrive to make the correct sequence.

Finally, I don't see that "faster" has any relevance. The fragments will be discarded much faster than they can possibly arrive on the line.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **20** # **536**

Shohet, Zion — Infineon

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

The value 2exp(11) is wrong. Should be 2exp(14)/2, or more generally maxSequenceNumber/2

SuggestedRemedy

replace 2exp(11) with maxSequenceNumber/2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

(To be treated as Technical.)

Change to 2exp(14)/2 - there is no definition for maxSequenceNumber.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **34** # **465**

Squire, Matt — Hatteras Networks

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

I believe the two paragraphs on what to do about assembly given a fragment error are unnecessary. If we just continue without doing this stuff, these errors will occur during re-assembly. There's no need to cover them twice.

SuggestedRemedy

Delete lines 31-41 as they duplicate the reassembly errors text.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Although the two sections are similar, the errors during re-assembly are not a super-set of the errors in packet sequencing.

For example, an out-of-sequence fragment with start and end asserted will not cause a re-assembly error.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **4** # **893**

Tom Mathey — Independent

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

This paragraph says

"For each PMA (gamma-interface), the per-PMA buffering mechanism shall discard the fragment if any of the following conditions occur:"

1. Figure 61-2 shows that the PMA interface is at the alpha/beta interface.
2. phy's are not allowed to discard, substitute, or otherwise change data. Preamble is not data.
3. A phy is a faithful servant that always takes what it is given, performs its required duties, and waits for the next task. If a phy is not able to correctly perform its assigned duties relative to MAC data, then it must pass what it has up to the MAC while marking the frame as in error with MII signal RX_ER.
4. no buffers should ever be flushed. Pass all data up to MAC.

SuggestedRemedy

1. Perhaps what is meant is per PCS.

2/3/4. Change text such that layers mark frames in error with MII signal RX_ER.

This also affects p.269, lines 38-41; p.269 line 53; p.270 line 4; p.270 line 26; etc.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Although I agree that PHYs should not discard, substitute or otherwise change data, this case requires an exception.

Because we are dealing with fragments, not frames, we have the problem of how to re-assemble a frame when the fragments are somehow corrupted. A frame cannot be re-assembled if it is not sure how the fragments must be combined. Attempting to re-assemble using (known) damaged fragments may cause errors to be propagated to multiple frames (e.g. a corrupted fragment may appear to belong to a different and otherwise good frame) and may cause a weakening of the delimiters - which severely weakens the protection against undetected errors.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **40** # **537**

Shohet, Zion Infineon

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

The sentence "The garbage frame shall ..." is duplicated in line 48. Since we have only a single garbage frame, we'd better have a single definition for this.

SuggestedRemedy

-delete last sentence in line 40.
-delete last sentnece in line 48.
-add a new paragraph with the following text: "The garbage frame shall consist of 64 data bytes of 00, source address xxx, destination address yyy, and CRC. Preamble and SFD will be prepended before the frame is sent to the MII"
- add an editor note that xxx and yyy should be defined.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The definition of the frame currently specifies that it is a minimum length frame with the entire contents = 00. Therefore the DA & SA are defined and also the data payload (which would be protocol dependant) is less than 64bytes.

Direct the editor to add a new paragraph defining the frame:

"The garbage frame shall consist of 64 bytes of 00. Preamble and SFD will be prepended before the frame is sent to the MII according to 61.2.1.1"

Replace last sentence of line 40 with reference to new definition.
Replace last sentence of line 48 with reference to new definition.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **41** # **1003**

Barrass, Hugh Cisco Systems

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

Editor's note suggests that the correct reference needs to be added.

The same also applies to line 49.

SuggestedRemedy

For line 41 and line 49 change:

"61.x.x.x (editor to change TBD reference here)"

to "61.2.1.1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment #537

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **41** # **506**

Beck, Michael Alcatel Bell nv

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

Incomplete reference.

SuggestedRemedy

Add reference to 61.2.1.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also #537

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **41** # **518**

Beck, Michael Alcatel Bell nv

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

According to the IEEE Standards Style Manual, "will" is only used in statements of fact. This sentence is a requirement (to prepend preamble and SFD).

SuggestedRemedy

Replace "will" with "shall".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The requirement is specified in 61.2.1.1, this part refers to that requirement and is therefore informational.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **45** # **1060**
Cravens, George Mindspeed

Comment Type **T** *Comment Status* **D**
A fragment with EndofPacket asserted is acceptable while between frames if StartofPacket is also marked.

SuggestedRemedy
Change text to:

If a fragment is received with the EndOfPacket bit asserted and the StartofPacket bit deasserted while the packet assembly function was between frames (i.e. waiting for a Start of Packet), . . .

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **48** # **519**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
According to the IEEE Standards Style Manual, "will" is only used in statements of fact. This sentence is a requirement (to prepend preamble and SFD).

SuggestedRemedy
Replace "will" with "shall".

Proposed Response *Response Status* **W**
PROPOSED REJECT.

See also #518

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **49** # **507**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Incomplete reference.

SuggestedRemedy
Add reference to 61.2.1.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See also #537

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **52** # **466**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
The text seems to imply that, when we get a SoP unexpectedly, we throw it away as well as whats in the buffer til the next one. We should start the next frame with the SoP just received.

SuggestedRemedy
Replace "and flush the PMA buffers until the next Start of Packet is received" with "and flush the PMA buffers, starting the next frame with the Start of Packet fragment just received."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.5** *P* **269** *L* **8** # **476**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D**
I believe we can do without the restrictions on the receive for checking min/max fragment size. In general, the other conditions on the receiver prevent bad things from happening. The restrictions on transmit are to guarantee the sequence number space and buffering restrictions are adequate. If the receiver doesn't check these explicitly, the algorithm still works as long as (a) the buffers don't overflow, and (b) the sequence numbers don't wrap. And having these checks does not eliminate those conditions from occuring.

In general, this falls into the "be flexible in what you accept, be specific about what you send."

SuggestedRemedy
Remove min/max fragment size checking on receive (lines 8 & 9), signals for those errors (line 15), and mgmt signals (P270, L28/L33).

Proposed Response *Response Status* **W**
PROPOSED REJECT.

If a fragment is received which violates one of these rules then something must be corrupted. Normally this will be combined with a fragment CRC error, but in the rare case that the CRC is defeated we do not want to use this fragment because we know it is wrong.

Cl **61** *SC* **61.2.2.5** *P* **2698** *L* **20** # **463**

Squire, Matt — Hatteras Networks

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

Should 2^11 be 2^13 given the 14-bit sequence number?

SuggestedRemedy

change 11 to 13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.5** *P* **270** *L* **2** # **1061**

Cravens, George — Mindspeed

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

Use parameters to describe Maximum Frame Length, same as used in 61.1.4.1.1.

SuggestedRemedy

Change text to match that in 61.1.4.1.1:

. . . maximum allowable frame size (i.e. maxUntaggedFrameSize + qTagPrefixSize, currently 1522 bytes (see 3.5, 4.2.7.1 and 4.4)) then the first part . . .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.1** *P* **270** *L* **14** # **1504**

Booth, Brad — Intel

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

For 61.2.2.6.1 and 61.2.2.6.2, AGGREGATION should be aggregation.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This should be "Aggregation"

Cl **61** *SC* **61.2.2.6.2** *P* **270** *L* **21** # **894**

Tom Mathey — Independent

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

The paragraph "PHY PMI AGGREGATION Management entity signals" needs to provide a little bit more information.

SuggestedRemedy

Provide a table or text which maps each to the variables in this paragraph to the corresponding MMD bit in a.b.c format.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Add reference to Clause 45 registers for each management entity signal.

Cl **61** *SC* **61.2.2.6.2** *P* **270** *L* **25** # **1004**

Barrass, Hugh — Cisco Systems

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

Need PAF control signal (see also comment on 61.2.2)

SuggestedRemedy

Add new signal at the head of this list:

PAF_enable: this primitive is asserted by the management entity to indicate that the PAF function is enabled.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.3** *P* **271** *L* **16** # **468**

Squire, Matt — Hatteras Networks

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

We say for cpe devices, a linke is not enabled (used for handshaking) until the PMD available register limits connectivity such that each PMI maps to one and only one MII. And yet the register is writable for CPE type. So we can write to the register before the link is enabled? I'm still confused by the operation here. Why isn't the link enabled for handshaking immediately, so that one can actually write to the register over that PMI? Why is it writable at all if it has to be mapped to one and only one MII before it can be written? Why do we even need the aggregate register if the available register limits us to one and only one PMI?

SuggestedRemedy

Please clarify the intent. I'm still under the impression that the intent was to bring the link up for handshaking and allow the register to be written WITHOUT having the PMD mapped to one and only one PMI beforehand.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

If BOTH the CO and CPE devices have uncontrolled mapping between PMI and MII then there are numerous race conditions and potential deadlocks that can ensue. The remote discovery mechanism only works if the CPE is restricted to "only one MII for each PMI" before the discovery process starts. This still allows many PMIs to be mapped to one MII so that the CO can control how many PMIs are used for the link.

Cl **61** *SC* **61.2.2.6.3** *P* **271** *L* **3** # **1005**

Barrass, Hugh — Cisco Systems

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

Needs description of PAF_enable function (particularly the CO/CPE & local/remote operation).

SuggestedRemedy

Add the following at the beginning of the paragraph:

Clause 45 [see Clause 45] defines two bits in the EFM copper control register [see 45.2.2.1] to control the PAF function. PAF_available is used to indicate that the system has the capability to aggregate PMIs, PAF_enable is used to control whether this ability is enabled or not. In all cases, the PAF_available bit is read-only, the PAF_enable bit is write/read only if the PAF_available bit is asserted.

For CO-subtype devices, both the PAF_available and the PAF_enable bits are only accessible locally, the PAF_enable bit is writeable.

For CPE-subtype devices, both the PAF_available and the PAF_enable bits are locally read only and remotely readable. The PAF_enable bit is remotely writeable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.3** *P* **271** *L* **30** # **508**

Beck, Michael — Alcatel Bell nv

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

Incomplete reference.

SuggestedRemedy

Add reference to 61.2.3.1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.3** *P* **271** *L* **33** # **1505**

Booth, Brad — Intel

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

Both lists on this page need to follow the IEEE style guide.

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.3** *P* **271** *L* **46** # **509**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Incomplete reference.

SuggestedRemedy
Add reference to 61.2.3.1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.2.6.4** *P* **272** *L* **26** # **1006**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
Subsection 61.2.2.6.4 describes the operation of the handshake (g.994) function in order to transport the remote_discovery_register access. This properly belongs in subsection 61.3.

SuggestedRemedy
Move the entire subclause 61.2.2.6.4 to an appropriate place in 61.3

Add a paragraph at the end of 61.2.2.6.3

"The remote access mechanisms for the PMI aggregation registers are defined in 61.3 (reference to moved paragraph)."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3** *P* **273** *L* **13** # **1007**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
An explanation is needed for the use of the terms "fragment" and "packet"

SuggestedRemedy
Add a second paragraph:

Because the PAF function is optional, either entire data packets or packet fragments may be passed across the gamma interface. In this section, the term "fragment" will be used to describe either fragments or packets according to the function of the PAF.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.1** *P* **273** *L* **28** # **591**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Listed registers are related to "aPHYCurrentStatus".

SuggestedRemedy
Insert cross reference to "aPHYCurrentStatus" on page 102.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

There are no registers listed on this page, or defined in this section (perhaps reference is incorrect?).

Ask commenter to clarify comment.

Cl **61** *SC* **61.2.3.1** *P* **273** *L* **46** # **593**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Typo: "G..993.1"

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.1** *P* **273** *L* **49** # **522**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
According to the IEEE Standards Style Manual, "must" is used only to describe unavoidable situations. This sentence is a requirement (to never de-assert Tx_Avble during the transmission of a data fragment).

SuggestedRemedy
Replace "must" with "shall".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.1** *P* **273** *L* **52** # **520**
Beck, Michael Alcatel Bell nv

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

According to the IEEE Standards Style Manual, "will" is only used in statements of fact. This sentence is a requirement (to support access to certain registers over the gamma-interface).

SuggestedRemedy

Replace "will" with "shall".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This appears to be a statemet of fact (re-state it in the present tense to yourself, and see how it reads). The term "OAM Information Flow" is too imprecise to impose a requirement on it.

Cl **61** *SC* **61.2.3.2.1** *P* **275** *L* **21** # **898**
Tom Mathey Independent

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

Text states "MSB of each octet is sent first.". However, the ethernet data still needs to be sent LSB first in order to not compromise the strength of the CRC.

SuggestedRemedy

Provide a map of how the msb/lsb works. See base standard for examples:

Figure 50-5, 50-6, 50-11, 51-2
Table 51-2, 51-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
For this TC, the gamma interface is defined LSB-first, in accordance with tradition for packet interfaces such as Ethernet and HDLC. However, the alpha/beta interface is defined as MSB-first, as is tradition with cell-based interfaces. Text is needed to describe how bits are mapped between the gamma and alpha/beta interfaces.
Direct editor to copy, or reference, text in Annex H.4.1.1/G.993.1 that describes how to do the mapping for the PTM-TC.
See also comment #911.

Cl **61** *SC* **61.2.3.2.2 alpha(beta)** *P* **275** *L* **52** # **903**
Tom Mathey Independent

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

The paragraph "alpha(beta) Synchronization Flow" includes a line for signal:
PMA_receive_synchronized
There is no use for this signal anywhere in the document.

SuggestedRemedy

Discard this unused signal.
Actually, I can not find a use for just about all of the signals in Table 61-8. Thus they can all be discared as unused.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

This signal was added in D1.2. It " indicates that the receive function is synchronized and valid data is being passed upwards
across the a/ß-interface."

Rather than delete it, add text to force Synchronized<=false when this signal is deasserted.

As for other tables in Table 61-8, we could just reference alpha/beta signal definitions in the references (the references have the appropriate weasel words about what this signals are).

Cl **61** *SC* **61.2.3.2.3** *P* **276** *L* **10** # **532**
Beck, Michael Alcatel Bell nv

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

This sentence is either redundant or wrong, and it uses "will", which is deprecated.

SuggestedRemedy

Possible remedies:
(a) remove sentence
(b) replace "gamma" with "alpha(beta)" and "will" with "shall".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Remove entire paragraph. The subcluase pertains to G.99x OAM flow, not the OAM defined in Clause 45

Cl **61** *SC* **61.2.3.3** *P* **274** *L* **24** # **899**
Tom Mathey Independent

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

The text "In the transmit direction, the TC receives fragments from the PAF" is misleading since the PAF layer is optional.
What is needed is text which allows the data to either come from the rate matching layer or the optional PAF

SuggestedRemedy

What is needed is text which says that the interface is either the optional PAF or the MAC-PHY Rate Adaptation as shown in Figure 61-2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment #1007

Cl **61** *SC* **61.2.3.3** *P* **276** *L* **18** # **911**
O'Mahony, Barry Intel Corp.

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

For this TC, the gamma interface is defined LSB-first, in accordance with tradition for packet interfaces such as Ethernet and HDLC. However, the alpha/beta interface is defined as MSB-first, as is tradition with cell-based interfaces. Text is needed to describe how bits are mapped between the gamma and alpha/beta interfaces

SuggestedRemedy

Copy, or reference, text in Annex H.4.1.1/G.993.1 that describes how to do the mapping for the PTM-TC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Editor will add reference to ITU-T Recommendation G.993.1, subclause H.4.1.1 (PTM-TC).
See also comment #898.

Cl **61** *SC* **61.2.3.3** *P* **276** *L* **20** # **1008**
Barrass, Hugh Cisco Systems

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

Use of "data frame" is inconsistent with other descriptions which assume fragmentation.

Also on line 27

SuggestedRemedy

Change "data frame" to "data fragment"

Change "TC frame" to "TC fragment"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3** *P* **276** *L* **32** # **1009**
Barrass, Hugh Cisco Systems

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

The data rate is set during system configuration, not the "maximum" data rate.

SuggestedRemedy

Change

"maximum data bit rates are set during the system configuration."

to

"data bit rates are set during the system configuration."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3** *P* **280** *L* **48** # **902**
Tom Mathey Independent

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

The text "TX_Err signal is asserted. It serves to terminate the fragment immediately, ..." is not what the requested intent in D1.3 was supposed to be for dealing with MII signal TX_ER. A phy shall never discard data. What was intended was that the phy maintain the integrity of the MAC data, maintain the length of the frame, but mark the frame with a code point indicating "error".

SuggestedRemedy

Assign code point for error, not discard/change/terminate MAC data.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Need to discuss in committee. Keeping the same length would require adding 64 codepoints, not just one, since the Cn parameter specifies the ending point of the frame.

Not only is this a lot of codepoints to add (complicating the state machine significantly), it would no longer be possible to keep a hamming distance of 2 (not enough code space).

Propose to eliminate E, and signify error by intentionally corrupting the encapsulation CRC.

Cl **61** *SC* **61.2.3.3 Figure 61-14** *P* **277** *L* **31 and 43** # **618**
Marc Kimpe Adtran

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

In top right quarter of the figure, the line labeled Tx(a/b) there are two bytes labeled 'syn'. The second byte (the one with the value=06 pointer) should be labeled 'C5' instead of 'syn'. In bottom right quarter of the figure, the line labeled Tx(a/b) there are three bytes labeled 'syn'. The second byte (the one with the value=05 pointer) should be labeled 'C4' instead of 'syn'. In bottom right quarter of the figure, the line labeled Tx(a/b) there are three bytes labeled 'syn'. I'm less sure, but it looks like the third byte (the one with the value=00 pointer) might be labeled 'S' and it's value 41 instead of 'syn'.

SuggestedRemedy

Verify third question and perhaps adjust text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accept unless Hugh explains why it would be preferable to keep it the way it is.

Cl **61** *SC* **61.2.3.3.1** *P* **276** *L* # **610**
Debbasch, Bernard GlobespanVirata

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

Its not apparent why a Scrambler/Descrambler is required. It should be removed.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This was discussed and agreed in Dallas. Scrambler facilitates sync lock, as in 64/66.

Cl **61** *SC* **61.2.3.3.1** *P* **276** *L* **48** # **1062**
Cravens, George Mindspeed

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

Figure 61-15. S38 is shown twice.

SuggestedRemedy

Change the second S38 to S39.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 622

Cl **61** *SC* **61.2.3.3.1** *P* **277** *L* **48** # **526**
Beck, Michael Alcatel Bell nv

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

Period belongs with sentence on previous page.

SuggestedRemedy

Remove break at end of sentence on previous page.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.1** *P* **277** *L* **49** # **469**

Squire, Matt — Hatteras Networks

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

Seems like the figures were inserted between a word and the following period, because the period starts this line one page later.

SuggestedRemedy

Move the period back to its sentence. Maybe even insert the diagrams after the paragraph instead of mid-paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.1** *P* **278** *L* **1** # **1506**

Booth, Brad — Intel

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

Equation needs to follow IEEE style guide. Should be labeled (61-1).

SuggestedRemedy

As per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.1 and .2** *P* **276** *L* **37** # **622**

Marc Kimpe — Adtran

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

It appears that the scrambler polynomial choice is a new one. If so, then perhaps consider using the ATM TC scrambler instead. (It's shorter and already used for things other than ATM.). This comment boils down to why pick an arbitrary new scrambler when there is one that already works.

SuggestedRemedy

Change scrambler G(x) from X58 + X39 + 1 to X43 + 1. Adjust figures 61-15 and 61-16 to match. (There is also an editorial issue in the duplicate S38 boxes in each of these figures.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Howeve, X^43+1 is a poor choice (even the SONET literature acknowledges this, for certain applications).

This polynomial has X+1 as a factor, as does the encapsulation CRC (and CRC-16). The use of this scrambler would thus degrade the error-detecting capabilities of the encapsulation CRC significantly.

The current (long) scrambler was chosen for 64/66 to make malicious data packets more difficult. However, that is not really as much of a concern here.

Propose change to X^23+X^18+1. This is an irreducible trinomial already used elsewhere in the PHY.

Cl **61** *SC* **61.2.3.3.2** *P* **278** *L* # **611**

Debbasch, Bernard — GlobespanVirata

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

Its not apparent why a Scrambler/Descrambler is required. It should be removed.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This was discussed and agreed in Dallas. Scrambler facilitates sync lock, as in 64/66.

Cl **61** *SC* **61.2.3.3.2** *P* **278** *L* **13** # **1063**
Cravens, George Mindspeed

Comment Type **E** *Comment Status* **D**
Figure 61-16. S38 is shown twice.

SuggestedRemedy
Replace the second S38 with S39.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment 622

Cl **61** *SC* **61.2.3.3.3** *P* **278** *L* **26** # **1010**
Barrass, Hugh Cisco Systems

Comment Type **E** *Comment Status* **D**
Use of "data frame" is inconsistent with other descriptions which assume fragmentation.

Also lines 31, 32, 34, 35 and 38

SuggestedRemedy
Change "TC frame" to "TC fragment" (6 instances)

Proposed Response *Response Status* **W**
PROPOSED REJECT.

A "TC frame" encapsulates a "data frame fragment".

See also comment 1011

Cl **61** *SC* **61.2.3.3.3** *P* **280** *L* **33** # **1507**
Booth, Brad Intel

Comment Type **E** *Comment Status* **D**
Table 61-10 is in the middle of a paragraph.

SuggestedRemedy
Change anchor properties.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Commenter is requested to instruct neophyte editors how to do this.

Cl **61** *SC* **61.2.3.3.3** *P* **280** *L* **41** # **913**
O'Mahony, Barry Intel Corp.

Comment Type **T** *Comment Status* **D**
Parameter C14 is equal in value to the all-data syn byte, 0x0F. This is probably not a good idea.

SuggestedRemedy
There are a number of different ways of dealing with this. For example, change the definition of Cn to Cn=n+0x10.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Change to n+0x10+[even parity]

Cl **61** *SC* **61.2.3.3.3** *P* **280** *L* **44** # **1064**
Cravens, George Mindspeed

Comment Type **T** *Comment Status* **D**
The value for the "E" character has bad parity.

SuggestedRemedy
Change the value for the "E" character to 0x42.

(I doubt subscripts will make it through the comment tool, thus the 0x format.)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See comment 902

Cl **61** *SC* **61.2.3.3.3** *P* **280** *L* **7** # **470**
Squire, Matt Hatteras Networks

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

On lines 7 & 10, CRC is treated differently than data. The diagrams lead one to believe that CRC is different than D.

SuggestedRemedy

I'm not sure what to suggest. Maybe just eliminating the CRCn and replacing it with D in line 10.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

CRC *is* different than data:

--it is added by the TC layer,
--it is not poart of the data frame,
--it is not scrambled.

See also comment 619

Cl **61** *SC* **61.2.3.3.3 Table 61-10** *P* **280** *L* **33** # **620**
Marc Kimpe Adtran

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

The table describes an unnamed set of character values. This makes referencing the set unclear perhaps as in 61.2.3.3.1 last sentence 'control'.

SuggestedRemedy

Rename Table 61-10 'TC Control Character Values'. Fix references to the set to be 'TC Control Character'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.3 Table 61-10** *P* **280** *L* **33 thru 45** # **623**
Marc Kimpe Adtran

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

In table 61-10, the choice of even parity makes the value for C15 0x0f. This is the same as an all data sync byte. This may open a security hole. With short back to back packets, it appears possible to construct a packet sequence with C15 bytes spaced every 65 bytes. This would prevent the sync detect state machine from finding 4 Unequivocal syncs after a resync or bit error in the sync byte.

SuggestedRemedy

Choose different values for either the characters in Table 61-10 (perhaps odd parity) or the Sync bytes in Table 61-9 (perhaps use 0xFF instead of 0x0F). Also adjust the example byte streams in figures 61-14 and 61-17 to match. Alternatively, modify the scrambler definition to include everything except the Sync Byte. (Would affect last sentence in 61.2.3.3.1 and figure 61-12) (Any of these would work, but my preference would be for the last because it seems the least disruptive to the current spec and more consistant with other sync pattern protected by scrambler standards.)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 913

Cl **61** *SC* **61.2.3.3.3 Table 61-10** *P* **280** *L* **46** # **621**
Marc Kimpe Adtran

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

The table leaves codes 67 thru 127 undefined. If they were defined and the current receiver well behaved, then this might make interoperability with future spec. enhancements possible.

SuggestedRemedy

Add a row to the end of the table Type = 'Reserved (ignore and skip to next codeword)' Character = 'Rn, n=67-127' Value = Rn = n + [even parity in bit position d7];

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reserve all unused codes.

Cl **61** *SC* **61.2.3.3.5** *P* **281** *L* **14 thru 48** # **619**

Marc Kimpe Adtran

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

In the spec, there are two CRC's, the original payload Ethernet CRC and the new CRC added for the TC. This may be unclear. (For example in 61.2.3.3.1 last sentence, the reference to CRC bytes probably means just the new CRC, but might also mean the Etherent CRC bytes.)

SuggestedRemedy

Fix all the references to the CRC added by the TC to be TC-CRC instead of just CRC.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.5** *P* **281** *L* **17** # **1011**

Barrass, Hugh Cisco Systems

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

The use of frame instead of fragment is especially confusing in this section.

Also lines 20, 21, 22, 25, 32.

SuggestedRemedy

Line 17, change "payload frame" to "payload fragment"

Line 20, change "end of the frame" to "end of the fragment"

Line 21, change "last 4 bytes of the frame" to "last 4 bytes of the fragment"

Line 22, change "that the frame" to "that the fragment"

Line 25 & 32, change "payload frame" to "payload fragment"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Certainly, "payload frame" should be changed. Perhaps a better term than "TC frame" is needed.

See also comment 1010

Cl **61** *SC* **61.2.3.3.5** *P* **281** *L* **19** # **472**

Squire, Matt Hatteras Networks

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

We say the CRC is computed to the end of the Ethernet CRC, inclusive. But thats not true when fragmenting. The fragment need not have the Ethernet CRC within it.

SuggestedRemedy

Use instead:

The CRC is generated for the entire payload and any attached header (from the PAF), including the Ethernet CRC, i.e.

a) when using PMI aggregation, the CRC is computed over the first byte of the PAF header to the last byte of the fragment, inclusive

b) when not using PMI aggregation, the CRC is computed over the first byte of the Ethernet header (destination MAC address) thru the Ethernet CRC, inclusive.

The CRC is added to the data stream after...<same stuff thats there>

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "CRC to "TC-CRC".

See also comment 1012

Cl **61** *SC* **61.2.3.3.5** *P* **281** *L* **19** # **1012**

Barrass, Hugh Cisco Systems

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

The description of the CRC scope includes both frames and fragments for the start but not for the end.

SuggestedRemedy

Change

"to the last byte of the Ethernet CRC, inclusive."

to

"to the last byte of the Ethernet CRC (for a frame) or the last byte of the fragment (if PAF fragmentation is operating), inclusive."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See comment 472

Cl **61** *SC* **61.2.3.3.5** *P* **281** *L* **28** # **912**

O'Mahony, Barry — Intel Corp.

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

Based on the last sentence of 61.2.3.3.7 (added in this draft), for 10PASS-TS the TC CRC may be reduced from 32 to 16 bits and still meet desired MTTFPA golas. This would reduce the encapsulation overhead.

SuggestedRemedy

Add text to specify that CRC-16 polynomial is to be used for 10PASS-TS PHY (existing polynomial continues to be used for 2BASE-TL).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Group discussion needed.

Cl **61** *SC* **61.2.3.3.6** *P* **281** *L* **50** # **904**

Tom Mathey — Independent

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

The paragraph on "Sync detection" is way too restrictive for determining loss of sync. As shown in Figure 61-18, a single bit error in the sync byte causes an immediate loss of sync. This is not acceptable, it was called a "hair-trigger" during 1 Gig development. All previous phys have allowed some amount of "loss" before declaring that the link is down.

10BASE-T uses link pulses and allows several pulses to be missing.
1000BASE provides a 4 level hysteresis for sync, Figure 36-9,
10Gig also provides a 4 level hysteresis, Figure 48-8,

There are very good reasons for allowing hysteresis.

SuggestedRemedy

Add a 4 level hysteresis to Figure 61-18. Use 1 Gig and 10Gig figures as guidance.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A goal of the design was to avoid the "hair trigger"

Perhaps just change to Synchronized<=true for the "FreeWheel" state

Cl **61** *SC* **61.2.3.3.6** *P* **281** *L* **52** # **483**

Marris, Arthur — Cadence

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

Spelling - "syncronization" on lines 52 and 54

SuggestedRemedy

Replace "syncronization" with "synchronization" on lines 52 and 54

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.6** *P* **281** *L* **52** # **515**

Beck, Michael — Alcatel Bell nv

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

According to the IEEE Standards Style Manual, the word "shall" is used to indicate mandatory requirements. This sentence expresses a purpose.

SuggestedRemedy

Replace "syncronization shall be acquired" with "synchronization is acquired".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.6** *P* **281 and 28** *L* **281-52 thr** # **624**

Marc Kimpe Adtran

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

The algorithm chosen for sync detection contains a definition for Unequivocal Sync which requires verifying no alternative sync sequences of more that 2 syncs. This appears to require state to keep track of all 65 possible sync locations while acquiring sync. (Without byte sync, in the future, it may be 8 * 65 locations.) The search algorithm used in the ATM cell delineation TC appears to accomplish essentially the same thing without this requirement. The algorithm can be found in ITU I.432.1 section 7.3.3.2. Perhaps consider using the standard algorithm.

SuggestedRemedy

Modify the text at 61.2.3.3.6 to describe something similar to the ITU algorithm modified so that correct HEC is taken to mean valid sync byte value and cells are taken to mean codewords. Choose suitable values for Alpha and Delta, perhaps 8 and 4 as in Figure 61.18.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

7.3.3.2/I.432.1 is a 2-stage acquisition: HUNT (look for a HEC to acquire cell boundary), and PRESYNC (look for Delta consecutive HEC's).

Here, "HUNT" is trivial (look for sync byte). "PRESYNC" is made more robust by also looking for unequivocal syncs. This speed the sync lock process (i.e., only need look for 4, unlike Delta=8 for ATM).

Cl **61** *SC* **61.2.3.3.6** *P* **282** *L* **32** # **479**

Squire, Matt Hatteras Networks

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

It seems unnecessary to have the <4 Unequivocal Syncs> transition from the FreeWheel state. If we get an expected sync, we move by to synced. If we don't, we can go back to looking, at which point we'd look for the 4 Unequivocal Syncs.

SuggestedRemedy

Eliminate the transition from FreeWheel because of 4 Unequivocal syncs. If deleting the transition is unpalatable, at least make it an optional transition - things work fine without it, they're just not as fast.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

While in FreeWheel, 1 expected sync will return to Synced, as requested by comment.

The 4 unequivocal syncs case is there to cover the case when sync is really lost, and is acquired at another location.

Cl **61** *SC* **61.2.3.3.6** *P* **282** *L* **46** # **480**

Squire, Matt Hatteras Networks

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

Clarify that the FreeWheel state counter is inclusive of the "miss" required to get there (i.e. 8 total missed syncs required to go back to looking, not 1 to get in plus 8 more.

SuggestedRemedy

8th miss is defined as the 8th consecutive occurence of a non-sync character in the bytes stream where sync characters are expected. The 8 misses includes the missed sync that must occur in order to transition into the FreeWheel state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See also comment 904

Cl **61** *SC* **61.2.3.3.7** *P* **283** *L* **3** # **1013**

Barrass, Hugh Cisco Systems

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

Typo - menas - should be means

SuggestedRemedy

Change "menas" to "means"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.2.3.3.8** *P* **283** *L* **10** # **905**
Tom Mathey Independent

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

According to the base standard:

1.2.2 Service specification method and notation

The service of a layer or sublayer is the set of capabilities that it offers to a user in the next higher (sub)layer.
Abstract services are specified here by describing the service primitives and parameters that characterize each service.

Clause 61 provides no service interface (abstract) to the next higher layer, encapsulation to PAF. It does seen to specify a very physical interface, G.993.1 Annex H, the gamma interface. Management is not a higher layer.

The two signals, TC_loss_of_sync and TC_CRC_error, need to be called out as variables and used in a state diagram. See examples in many other clauses.
The two signals / variables need a table which maps them to the MMD bits in Clause 45.
There only other use of this term in the document is in Clause 45.

SuggestedRemedy

Delete all reference to a service interface as there is a specific physical interface.
Provide usage in a sate diagram.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

No references to "service interface" seen on this line.

Ask commenter to clarify what is meant by comment (is the objection to the term "primitive"?).

These signals should be handled the same as those in 61.2.2.6.2 (see comment 894).

Cl **61** *SC* **61.3.1** *P* **283** *L* **22** # **501**
Beck, Michael Alcatel Bell nv

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

No proposed resolution for conflicts between our standard and the referenced document.

SuggestedRemedy

Replace first sentence with: "This subclause defines the startup and handshaking procedures by incorporating ITU-T Recommendation G.994.1 by reference. Where there is conflict between specifications in G.994.1 and those in this standard, those of this standard will prevail."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.3.1.2** *P* **284** *L* **10** # **502**
Beck, Michael Alcatel Bell nv

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

The "Purpose" section in 61.3 only discusses the use of G.hs in public networks. Our draft standard will also be used in private networks.

SuggestedRemedy

Add paragraph. "In private networks, G.994.1 tones or messages may additionally be used to configure the subtype (CO or CPE) in devices which implement both (see 61.1.5.5). This is achieved by attempting to detect either downstream (CO) or upstream (CPE) handshake tones, and choosing the opposite role when tones are detected. If no tones are detected, an autoconfigurable device should send out upstream handshake tones by default."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.3.10.2** *P* **302** *L* **54** # **510**
Beck, Michael Alcatel Bell nv

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

Half-duplex operation is required for certain port types (per Table 61-13), so the Subclause Editor's note is obsolete.

SuggestedRemedy

Remove Subclause Editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.3.5** *P* **284** *L* **28** # **914**
O'Mahony, Barry Intel Corp.

Comment Type **T** *Comment Status* **D**
Change G.994.1 tone sets for 10PASS-TS to those specified in ITU-T Q4/15 liaison.

SuggestedRemedy
See liaison from ITU-T Q5/15 Durango meeting.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.3.5.1.1** *P* **284** *L* **46** # **527**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Sentence ends with two periods.

SuggestedRemedy
Remove additional period.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.3.5.1.2** *P* **285** *L* # **615**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Instead of B43, we should define a new set of handshake tones (as assigned in T1.424 pt. 3--D43 set, table 12-1 or propose to use

A43 for plan 998 region
B43 for plan 997 region.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Tones proposed by ITU-T shall be used (see also comment #914).

Cl **61** *SC* **61.3.8.6.2** *P* **286** *L* **53** # **503**
Beck, Michael Alcatel Bell nv

Comment Type **T** *Comment Status* **D**
ITU-T Recommendation G.994.1 Revision 2 is being replaced by Revision 3.

SuggestedRemedy
Delete sentence: "Equipment indicating 2BASE-TL or 10PASS-TS functionality shall indicate Revision Number 2." Add sentence to 61.3.1: "NOTE: Currently G.994.1 Revision 3 is in force. Earlier Revisions of this Recommendation should not be implemented in 2BASE-TL or 10PASS-TS."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.3.8.6.4** *P* **287** *L* **41** # **916**
O'Mahony, Barry Intel Corp.

Comment Type **T** *Comment Status* **D**
Delete editor's notes here. Also delete those on tables 61-19 and 61-20. Make appropriate codepoint changes per the Q4/15 liaison statement.

SuggestedRemedy
See Durango Q4/15 liaison.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.3.8.6.4** *P* **288** *L* **24** # **915**
O'Mahony, Barry Intel Corp.

Comment Type **T** *Comment Status* **D**
Delete sublclause editor's note at bottom of Table 61-17. Add note per the Q4/15 liaison statement.

SuggestedRemedy
See Q4/15 Durango meeting liaison.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **61** *SC* **61.3.8.6.4** *P* **289** *L* **33** # **921**
O'Mahony, Barry Intel Corp.

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

10PASS-TS G.994.1 tables need to be updated for:

--alignment with 62.4.4.6 (see other comment against this section)
--allow Annex 62A profiles to be implemented
--per notes on SCM reference sections 9.2.1.2 & 9.2.2, and Port Control Baseline, Paramter values for DF_STP in the 10PASS-TS-R need to be communicated via G.994.1.

SuggestedRemedy

See accompanying omahony_2_0403.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See also comments #920.

Cl **61** *SC* **61.3.8.6.4** *P* **293** *L* **35** # **918**
O'Mahony, Barry Intel Corp.

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

With Dallas agreement to support regenerators, SRU and silent period bits, similar to corresponding G.991.2 bits, need to be added.

SuggestedRemedy

Add SRU and regenerator silent period bits to Table 61-33.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As per resolution of comment #790/D1.3, repeatered operation is outside the scope of the 2BASE-TL specification (see also comment #617). The appropriate bits shall be added to the table, with a footnote stating "The specification and use of regenerators is outside the scope of this standard."

Cl **61** *SC* **61.3.8.6.4** *P* **334** *L* **21** # **919**
O'Mahony, Barry Intel Corp.

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

Resolve editor's note on page 294

SuggestedRemedy

Delete it. Synce words and stuff bits for 2BASE-TL will be programmable, as in G.991.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Change is needed to comply with requirements of 63.2.2.1 lines 44-48.

Cl **61** *SC* **61.3.8.6.4 Table 61-27** *P* **295 to 302** *L* # **625**
Marc Kimpe Adtran

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

The specification of each possible SHDSL rate makes for a long and tedious transmission. There is a need to add a constellation selection as well.

SuggestedRemedy

Revamp Table 61-27 to 61-44 & 61-46 to 61-54 to a simpler format that defines the min and max value of n for each constellation.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The Sub Task Force shall hear detailed proposal made by commenter, and decide on further action.

Cl **61** *SC* **61.4** *P* **316** *L* **11** # **1014**
Barrass, Hugh Cisco Systems

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

The PMA Service Interface is defined in 61.2.3.2 (the alpha/beta interface).

SuggestedRemedy

Delete entire subclause 61.4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
In the absence of proposed text, the subclause title shall be deleted.

Cl **61** *SC* **61.5** *P* **316** *L* **14** # **1015**
Barrass, Hugh Cisco Systems

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

This subclause needs some words...

SuggestedRemedy

Add paragraph:

As stated in 61.1, the channel characteristics of voice grade copper are very diverse. Some typical channels are defined as part of the Performance Guidelines contained in Annex 62B (for 10PASS-TS) and Annex 63B (for 2BASE-TL). These annexes also define the reference performance levels for each PHY in these conditions. Behavior in other voicegrade installations may be interpolated or extrapolated from that set of references.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61.6** *P* **316** *L* **16** # **1016**

Barrass, Hugh — Cisco Systems

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

This subclause needs words...

SuggestedRemedy

Add paragraphs

The MDI interface for 10PASS-TS is defined in T1.424, Part 1, Section 7; the Service Splitter and Electrical Characteristics for 10PASS-TS are defined in T1.424, Part 1, Section 12.

The Electrical Characteristics of the MDI interface for 2BASE-TL are defined in g.991.2, Section 11.

Note that local regulations may dictate interface characteristics in addition to or in place of some or all of these requirements.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Reference 62.4.5 (10PASS-TS MCM), 62.5.4 (10PASS-TS SCM) and 63.3.2.4 (2BASE-TL).

Cl **61** *SC* **61.7** *P* **316** *L* **18** # **1017**

Barrass, Hugh — Cisco Systems

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

This subclause needs words...

SuggestedRemedy

Add a paragraph

Both EFM Copper port PHYs are only defined for full duplex operation (notwithstanding the definition of PHY-MAC Rate Matching (see 61.2.1) which requires that the MAC operates in half-duplex mode for the purposes of flow control). EFM Copper ports do not support MAC control frames (see Clause 31) for the purpose of flow control as the link latency exceeds the assumptions used for the definition of that function.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See also comment #885.

Cl **61** *SC* **61.8** *P* **316** *L* **21** # **1018**

Barrass, Hugh — Cisco Systems

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

This subclause needs words...

SuggestedRemedy

Add a paragraph

All equipment subject to this clause shall conform to the requirements of 14.7 and applicable sections of ISO/IEC 11801. Note that local regulations will apply to most installations of this type of equipment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Not clear how ISO/IEC 11801 (customer premises cabling practices) would apply.
Subclause 14.7 only contains a mandatory reference to IEC 60950:1991 applicable to "this standard", and a set of recommendations applicable to 10BASE-T.
Add only this sentence: "Note that local regulations will apply to most installations of this type of equipment."

Cl **61** *SC* **61.9** *P* **316** *L* **24** # **1019**

Barrass, Hugh — Cisco Systems

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

This subclause needs words...

SuggestedRemedy

Add the following

It is recommended that each PHY (and supporting documentation) be labeled in a manner visible to the user with at least the following parameters.

a) PMA/PMD type (i.e. 10PASS-TS)
b) PAF Aggregation capability (i.e. PAF aggregateable domain number)
c) Homologation information
d) Applicable safety warnings

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61A-1** *P* **452** *L* # **841**

Carlo, James J.Carlo Consulting sup

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

It would be helpful if the right two blocks in this figure were "mirror imaged" so that the PMI's were on the left. This would then make the followin figure more easy to understand.

SuggestedRemedy

Mirror image the two right blocks in Figure 61A-1 so that PMI's are on the left.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **61A-2** *P* **453** *L* # **843**

Carlo, James J.Carlo Consulting sup

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

Number (if possible) the vertical arrows on the right side (LT) so that the example is easier to follow. Should we also label the MACs on the right side of this Figure as MAC-1, MAC-2, etc?

SuggestedRemedy

Number (if possible) the vertical arrows on the right side (LT) so that the example is easier to follow.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **62.4.4.2.2** *P* **333** *L* **1** # **917**

O'Mahony, Barry Intel Corp.

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

Resolve editor's note.

SuggestedRemedy

Per conference call, fix Bmax up and down equal to 15

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Value shall be fixed in meeting.

Cl **61** *SC* **Figure 61-11** *P* **267** *L* **20** # **891**

Tom Mathey Independent

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

1. Entry into state Idle needs to say something about reset and begin.
2. none of the variable have a definition: constants, function, variables, etc as used in all other clauses in the standard.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
1. Specify reset and begin conditions
2. Provide definitions for constants, functions, variables, etc as used in all other clauses in the standard.

Cl **61** *SC* **Figure 61-12** *P* **273** *L* **32** # **895**

Tom Mathey Independent

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

The arrow from block "control s/m" to multiplexer "insert bytes" implies that the receive path controls the transmit path.

SuggestedRemedy

Provide a stand-alone "transmit control s/m" on the transmit path such that all items in the receive path have no effect on the transmit path. This provides a clean split between functions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61** *SC* **Figure 61-14** *P* **277** *L* **25** # **901**

Tom Mathey Independent

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

1. Text Tx_PTM is used two palces in Figure 61-14, but is not defined nor has any other usage in the document
2. Clk_t, Transmit bit timing, is shown.
3. In the top drawing, is the text "60 clocks later" meant to show what is at the output of a 64 sage pipeline? If so, then D60 shows up at output 64 clocks later, and D62 shows up another 2 clock cycles later.
4. In the bottom drawing, right hand side, the sequence FC4, syn, D0 seems incorrect.

SuggestedRemedy

1. Is the gamma interface what is intended?
2. Is the octet clock, Osync_t Transmitted octet timing, what is intended?
3. Is 66 clocks later what is intended? If yes, then bottom drawing should be "656 clocks later"
4. Is the sequence FC4, S for start of frame, D0 what is intended?

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Figure shall be updated:

2. Clk_t shall be replaced with Tx_Clk
3. Clarify that 60 clock times between the left part of the figure and the right part of the figure are not shown.
4. Syn shall be replaced with S

It is clear from the text that Tx_PTM and Tx_Clk are signals of the gamma-interface as specified in G.993.1/H.

Cl **61** *SC* **Figure 61-8** *P* **265** *L* **1** # **889**

Tom Mathey Independent

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

1. If the receive path has back-to-back frames available and traverses the following states in zero time
2. from state SEND_FRAME_TO_MAC_2 to state IDLE to state SEND_FRAME_TO_MAC_1
3. then the ipg becomes deleted or becomes a very small number of clock cycles.

A. thus there needs to be a timer someplace to restore the required 96 bit time ipg.

4. in state WAIT_FOR_TIMER_DONE, the variable crs_rx is set to TRUE
5. this will cause the MAC to defer, thus signal TX_EN could never go TRUE

B. signal TX_EN is tested as an exit condition, and if this exit condition was taken, then priority is given to transmit frames which is bad as the receive buffer could overflow.

SuggestedRemedy

Discuss how to fix.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A. For a given MAC, the rate matching function will either always use SEND_FRAME_TO_MAC_1 or always use SEND_FRAME_TO_MAC_2, depending on the MAC's capability to send and receive at the same time (in half-duplex mode). If SEND_FRAME_TO_MAC_2 is used there is no problem because IPG will be restored in the WAIT_FOR_TIMER_DONE state.

The state machine is intended to show how the MAC-PHY rate matching function controls CRS rather give details about a receive frame is encapsulated by the PCS and sent by the MAC. However, the current diagram does not allow for IPG when using state SEND_FRAME_TO_MAC_1.

Remedy: Change the exit condition from state SEND_FRAME_TO_MAC_1 from RX_DV == FALSE to RX_DV == FALSE * IPG_done. Add some explanantion in the text that SEND_FRAME_TO_MAC_1 includes sending the IPG as well as the frame.

B. It is not true to say that transmit gets priority. If CRS is asserted early enough then transmit will not occur. The purpose of the timer and the TX_EN exit condition is to make sure that if CRS is asserted in the window slightly before transmit starts where CRS is ignored by the MAC then receive is held off until that transmission completes. Deference will occur once transmission completes because CRS will be asserted early enough in the IPG to cause deference. No change is required.

Cl **61** *SC* **Table 61-(55-66)** *P* *L* # **1038**
Gustafsson, Jonas Ericsson

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

Downstream PMMS parameters NPar(3) coding
A note should be added explaining that G.994.1 specifies 14 octets but that octet 9 and 10 are removed in other words octet 9 in D1.414 contains the content from G.994.1 and so on.

SuggestedRemedy

Add a note explaining that G.994.1 specifies 14 octets but that octet 9 and 10 are removed in other words octet 9 in D1.414 contains the content from G.994.1 and so on.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
61.3.8.6.4 states "The NPars and SPars used by 2BASE-TL and 10PASS-TS Ports are listed below, beginning with Table 61-15." This implies that IEEE802.3 defines these trees, and there is no need to explain if and why these trees differ from the ITU-T trees.

Cl **61** *SC* **Table 61-(61-78)** *P* *L* # **1039**
Gustafsson, Jonas Ericsson

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

Upstream PMMS parameters NPar(3) coding
Same comment as for Downstream PMMS table 61-(55-66).

SuggestedRemedy

Same remedy as for Downstream PMMS table 61-(55-66).

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See comment #1038.

Cl **61** *SC* **Table 61-10** *P* **280** *L* **40** # **471**
Squire, Matt Hatteras Networks

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

What does "even parity bit in position d7" mean?

SuggestedRemedy

d7 hasn't appeared thusfar in the text. Whats the intent of this parameter? Its not mentioned in the Table 61-9, where we just use n+1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Even parity for Cn values was introduced in resolution of comment #705/D1.3. Editor shall provide text to clarify notation "d7".

Cl **61** *SC* **Table 61-22** *P* **290** *L* **7** # **473**
Squire, Matt Hatteras Networks

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

Unclear why we have SCM and MCM PMDs both defined. This standard should just discuss 10PASS-TS as one variety.

SuggestedRemedy

Only one PMD should exist for 10PASS-TS.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Revision of G.hs tables for 10PASS-TS is required. See also comment #921. Obsolete bits/messages will be removed once a single PMA/PMD candidate is selected for 10PASS-TS.

Cl **61** *SC* **Table 61-25** *P* **291** *L* **49** # **474**
Squire, Matt Hatteras Networks

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

Why are there 48-bits in the aggregation register? In the earlier examples, its 32-bits (all over earlier parts of 61). But here we have bits 0-48 being carried in G.hs.

SuggestedRemedy

Clarify size of aggregation register.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
48 bits is correct. Table 45-8 defines the corresponding Aggregation Discovery register to be 48 bits in length.
However, this may not be clear from the table entry definitions in Table 61-25.
Accordingly, change "PMI Aggregation register..." in the table entries to "PMI Aggregation Discovery register..."

Cl **61** *SC* **Table 61-34** *P* *L* # **1037**
Gustafsson, Jonas Ericsson

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

Spar(2), Field 6: upstream should be downstream

SuggestedRemedy

Change upstream to downstream

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Cl **61** *SC* **Table 61-7** *P* **274** *L* **1** # **896**
Tom Mathey Independent

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

This table seems to be a method of transporting information, perhaps MMD register values from a 16 bit source, across a 48 bit interface.

Signals have no definition, for example: PCS_link_state. This signal has no definition, no source, and no other usage.

SuggestedRemedy

1. Provide timing diagrams, text, or state diagrams to support table. Include text on how to go from a 16 to a 48 bit interface.
2. All entries in table specify an optional interface, the PAF. Does this mean that all of these signals are also optional?
3. Provide a definiion for each signal.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Use of these signals is explained in 61.2.2.6.3-4.
Editor to add text explaining that signals in rows 2-10 are used for PMI aggregation only (assuming the presence of a PAF), and are therefore optional.

Cl **61** *SC* **Table 61-8** *P* **275** *L* **41** # **897**
Tom Mathey Independent

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

Direction of signal "PMA_receive_synchronized" is reversed.

SuggestedRemedy

Signal is from PMA to PCS, PCS <= PMA.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **61A** *SC* **61A.2** *P* **451** *L* **48** # **842**
Carlo, James J.Carlo Consulting sup

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

In the figure, the abreviation used is LT and NT. However, need to clarify for the PHYs that LT (10BASE-TS-O and 10BASE-TL-O) and that the NT (10BASE-TS-R and 10BASE-TL-R) is what is meant.

SuggestedRemedy

Add the sentence, "In Figure 61A.2, the LT is either the 10BASE-TS-O or 10BASE-TL-O and the NT is either the 10BASE-TS-R or the 10BASE-TL-R physical layer. There are other ways of fixing this, such as adding a quick definition to the actual figure of NT or LT.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
In Figure 61A-1, replace "NT" with "10PASS-TS-R/2BASE-TL-R" and replace "LT" with "10PASS-TS-O/2BASE-TL-O".

Cl **62** *SC* *P* *L* # **616**
Sorbara, Massimo GlobespanVirata, Inc.

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

Please see presentation file FlexPlan_copper_1_0305.pdf

SuggestedRemedy

Include the proposed bandplan extension in the draft copper specification.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Add band plan to 62A.3.2.2.

Cl **62** *SC* **62.1** *P* *L* # **1126**
Behrooz Rezvani Ikanos Communication

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

Applies to both MCM and SCM training sections. It is not clear what kind of broadband signal is being used for modems on both sides of the line to go thru training. During training it is required that notching to be “ON”

SuggestedRemedy

Find the appropriate parts of SCM and MCM during initial training when modems wake up the notching function must be “ON” so that they do not inadvertently radiate energy in the prohibited bands

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
If notching is enabled by port control, it shall be present during training. Clarifying text to be added to appropriate places.

Cl **62** *SC* **62.1.2** *P* **318** *L* # **1125**
Behrooz Rezvani Ikanos Communication

Comment Type **TR** *Comment Status* **D**
objective cannot be met. see rezvani_1_0503

SuggestedRemedy
see rezvani_1_0503

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Attached presentation shows that the objective can be met in certain situations but not in others. Annex 62B should clarify which performance can be expected from 10PASS-TS in different circumstances (for each PMD/PMA candidate).

Cl **62** *SC* **62.2** *P* **319** *L* **2728** # **597**
Debbasch, Bernard GlobespanVirata

Comment Type **E** *Comment Status* **D**
Change occurences of VDSL into 10PASS-TS

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Change occurences of VDSL into 10PASS-TS.

Cl **62** *SC* **62.2.2.4** *P* **321** *L* **7** # **1023**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
There seems to be more possible interleaver settings than implied in the normative statement at the end of reference clause 9.3.4

"The following interleaver parameters shall be supported:

etc."

SuggestedRemedy
Change subclause to reflect the real limitations on the values of I & M.

Stet, the following interleaver parameters shall be supported:

I = 18,30,36,72
M = integer from 2 to 62

Proposed Response *Response Status* **W**
PROPOSED REJECT.
See also comment #1022.

Cl **62** *SC* **62.2.4.3** *P* **321** *L* **1** # **1022**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
TBD in the text.

The reference document contains a number of optional interleaver settings.

SuggestedRemedy
Change subclause text to:

Stet, except that all optional interleaver settings are removed

(unless someone comes up with a better suggestion...)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See also comment #598.
Change subclause text to:
The following interleaver parameters shall be supported:
-For (N,K)=(144,128) the following values for M and I shall be supported: I=36 and M between 2 and 52
-For (N,K)=(240,224) the following values for M and I shall be supported: I=30 and M between 2 and 62

Cl **62** *SC* **62.2.4.3** *P* **321** *L* **3** # **598**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
RS Should follow the T1.424 Trial Use Part 3, Section 9.3.3

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
The mandatory settings in T1.424/Trial-Use (144,128) and (240,224) shall be supported.

Cl **62** *SC* **62.2.4.5** *P* **321** *L* **14** # **599**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Insert one line
c) 9.3.5.5.3 Table 9-4 set B2, B3 of Byte #2 and B1, B2, B3, B4 of Byte #3 to 0

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Insert one line:
c) in Table 9-4 (9.3.5.5.3), bits B2, B3 of Byte #2 are reserved; bits B1, B2, B3, B4 of Byte #3 shall be set to 0

Cl **62** *SC* **62.2.4.5** *P* **321** *L* **15** # **1024**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
There is no mention of signal PMA_receive_synchronized, or any equivalent to 62.3.2.2.6 (which is not line code dependant)

SuggestedRemedy
Add a subclause (which will be 62.2.4.6) which is identical to 62.3.2.2.6

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Add a subclause (which will be 62.2.4.6) which is identical to 62.3.2.2.6, except that it shall not reference Reference 1-2 Section 11. Reference 1-2 Section 11 does not contain any normative specifications.

Cl **62** *SC* **62.3.2.2.3** *P* **323** *L* **47** # **569**
Venugopal, Padmabala UNH-IOL

Comment Type **E** *Comment Status* **D**
"All IB shall coded 0 for normal operation,..." can we written as
"All IB bits are coded 0 for normal operation,..."

SuggestedRemedy
Change "All IB shall coded 0 for normal operation,..." to
"All IB bits are coded 0 for normal operation,..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.3.2.2.8** *P* **326** *L* **26** # **516**
Beck, Michael Alcatel Bell nv

Comment Type **T** *Comment Status* **D**
This sentence contains a "shall", which may be confusing because it is dependent on the recommendation ("should") in the previous sentence.

SuggestedRemedy
Insert "If this provision is implemented," at the beginning of the second sentence.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.3.2.2.9** *P* **326** *L* **52** # **517**
Beck, Michael Alcatel Bell nv

Comment Type **T** *Comment Status* **D**
According to the IEEE Standards Style Manual, the word "shall" is used to indicate mandatory requirements; "will" is only used in statements of fact. This sentence provides an example.

SuggestedRemedy
Replace "shall not be delayed" with "is not delayed". Replace "will be delayed" with "is delayed".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.4** *P* **328** *L* # **604**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
DMT 10PASS-TS shall support
a. Fix rate mode: 13/13, 10/10, 8/8 & 6/6
b. Rate Adaptive mode

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Editors of Clause 45 and Annex 62C will work out an example illustrating how rate adaptiveness can be obtained using Clause 45 registers.

Cl **62** *SC* **62.4.4** *P* **329** *L* **49** # **606**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Support for FMT implementation should be removed

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
The draft standard does not provide "support for FMT implementation". As stated, Section 13 (Informative Annex B - FMT implementation) provides additional information useful to PMD sublayer implementers.

Cl **62** *SC* **62.4.4** *P* **329** *L* **49** # **605**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Support for 8.625kHz tone space should be optional

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Support for 8.625kHz tone spacing was made mandatory in resolution of comment #827/D1.1 and #580/D1.2.

Cl **62** *SC* **62.4.4.2** *P* **333** *L* **12** # **603**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
Keep the same Bmax_d and Bmax_u range as defined in MCM-VDSL

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Values to be fixed, as agreed in resolution of comment #584/D1.2.
See also comment #917.

Cl **62** *SC* **62.4.4.2.1** *P* **330** *L* **16** # **600**
Debbasch, Bernard GlobespanVirata

Comment Type **E** *Comment Status* **D**
TBD should be replaced with 1024 and n can take values from 2,3,4

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Value to be fixed during meeting.

Cl **62** *SC* **62.4.4.2.1** *P* **330** *L* **4041** # **601**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
10PASSTS should be 10PASS-TS
Support for other values is optional.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Correct typo:
"The cyclic extension length is specified by the value of parameter m. In 10PASS-TS, the value m=20 is mandatory. Support for other values is out of scope."
CE options were placed out of scope in resolution of comments #587/D1.2, and #499/D1.3. Reserved bits in the initialization procedure can be used to negotiate values that are not specified by the standard.

Cl **62** *SC* **62.4.4.2.1** *P* **330** *L* **4546** # **602**
Debbasch, Bernard GlobespanVirata

Comment Type **T** *Comment Status* **D**
These 2 sentences are redundant and the second contains error. 10PASS-TS-R is at the receiving end of the pilot tone. When it requests pilot tone, 10PASS-TS-O shall support the transmission of the pilot tone on any downstream tone.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Replace 10PASS-TS-R with 10PASS-TS-O.

Cl **62** *SC* **62.4.4.2.2** *P* **330** *L* **39** # **1025**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
The entire section 8.2.1 of the reference cannot be discarded.

SuggestedRemedy
Add line:

Reference section 8.2.1.1 defines tone spacing, section 8.2.1.2 defines data sub carriers, section 8.2.1.3 defines IDFT modulation.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Add text:
Subsection 8.2.1.1 (Tone Spacing) is referenced stet. Additionally, 8.625 kHz tone spacing shall be supported as specified in 62.4.4.8.
Subsection 8.2.1.2 (Data Sub Carriers) is referenced stet.
Subsection 8.2.1.3 (IDFT modulation) is referenced stet.

Cl **62** *SC* **62.4.4.2.2** *P* **330** *L* **40** # **1026**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
This needs a reference to 8.2.2

SuggestedRemedy
Add sentence:

Reference section 8.2.2 defines cyclic extension.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.4.4.2.2** *P* **330** *L* **47** # **1027**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
There is no mention of reference sections 8.2.3.2 and 8.2.3.3

SuggestedRemedy
Add line:

Reference sections 8.2.3.2 (Loop Timing) and 8.2.3.3 (Timing Advance) are out of scope for this standard.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Page 333, line 7 states: "All other subclauses in MCM-VDSL Clause 8 are referenced stet."

Cl **62** *SC* **62.4.4.2.2** *P* **331** *L* **25** # **570**
Venugopal, Padmabala UNH-IOL

Comment Type **E** *Comment Status* **D**
Reference to wrong sub-clause 62A.3.4

SuggestedRemedy
Change sub-clause to 62A.3.3 in line 25

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.4.4.2.2** *P* **332** *L* **10** # **504**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
The reference PSDs for Upstream Power Back-Off (UPBO), shown in Table 62-9, are based on T1.424/Trial-Use. The table does not reflect UPBO requirements from TS 101 270-1 (ETSI).

SuggestedRemedy
Editor to create a section on "UPBO Reference PSD Profiles" in Annex 62A. Move Table 62-9 to Annex 62A, add Reference PSDs from TS 101 270-1, and label it "Mandatory UPBO Reference PSD Profiles". Add reference to Annex 62A in 62.4.4.2.2 (MCM) and in 62.5.4.1.4 (SCM).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.4.4.2.2** *P* **332** *L* **33** # **1028**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
Given that there are only two columns in the PSDref table, it seems overkill to specify PSDref - better to specify the noise model used for PSDref calculation.

SuggestedRemedy
Change:

"PSD_REF shall be input via the management interface..."

to:

"The noise environment specification for the PSD_REF shall be input via the management interface..."

Proposed Response *Response Status* **W**
PROPOSED REJECT.
See comment #504.

Cl **62** *SC* **62.4.4.4** *P* **333** *L* **13** # **505**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
All subclauses should be referenced stet.

SuggestedRemedy
Replace lines 17-54 with "Stet".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.4.4.6** *P* **334** *L* **48** # **571**
Venugopal, Padmabala UNH-IOL

Comment Type **E** *Comment Status* **D**
"The 10BASE-TS handshake..." should read as " 10PASS-TS handshake..."

SuggestedRemedy
change "The 10BASE-TS handshake..." to " 10PASS-TS handshake..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #530.

Cl **62** *SC* **62.4.4.6** *P* **334** *L* **48** # **530**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Wrong name for port type.

SuggestedRemedy
Replace "10BASE-TS" with "10PASS-TS".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See also comment #571.

Cl **62** *SC* **62.4.4.6** *P* **334** *L* **52** # **920**
O'Mahony, Barry Intel Corp.

Comment Type **T** *Comment Status* **D**
Resolve Editor's note.

SuggestedRemedy
Propose to put bit table definitions in 61.3, and functional description of bits here. See accomanying omahony_1_0403.pdf (note that since 8 KHz spacing is mandatory, this afects 62.4.4.8, too.).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
In proposed text, replace 10PASS-TS-C with 10PASS-TS-O. Indicate that "8.625kHz mode" bit shall always be set to 1.
See also comment #921.

Cl **62** *SC* **62.4.4.7** *P* **335** *L* **1** # **1029**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
The informative FMT annex does not appear to have relevance for EFM.

SuggestedRemedy
Change "stet" to "This annex is out of scope for this standard."

Proposed Response *Response Status* **W**
PROPOSED REJECT.
As stated, Section 13 (Informative Annex B - FMT implementation) provides additional information useful to PMD sublayer implementers.
See also comment #606.

Cl **62** *SC* **62.4.5** *P* **335** *L* **13** # **572**
Venugopal, Padmabala UNH-IOL

Comment Type **E** *Comment Status* **D**
Text for editor's note.

SuggestedRemedy
Suggested Text:

See Reference 1-1 Section 5.1 for VDSL reference model.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Reference 1-1 is not defined at this point.
New text:
"SeeT1.424/Trial-Use Part 1 Section 5.1 for VDSL reference model."

Cl **62** *SC* **62.4-62.5** *P* *L* # **1033**
Gustafsson, Jonas Ericsson

Comment Type **E** *Comment Status* **D**
The general (line-code independent) functional specifications are mixed together with line-code dependent specifications.
In some cases it is not clear if a specification is valid for only one line-code or both.
Some examples:
-Subclause 62.4.4.2.2, page 331-332, defines UPBO. This is a general requirement.
-Subclause 62.5.1.2, page 338, specifies the duplexing method which is general.
-Subclause 62.5.4.2, page 343, specifies Out-of-band PSD mask which is a general requirement.

SuggestedRemedy
Define a subclause within clause 62 which contains the general requirements. This way interpretation of the content is clearer and redundance is avoided.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
All linecode independent PMA and PMD requirements are defined both in the SCM clauses (62.3/5) and in the MCM clauses (62.2/4), either explicitly or by reference. As of D2.0, only one linecode should remain.
Linecode independent profile specifications can be found in Annex 62A.

Cl **62** *SC* **62.5.2.2.1** *P* **338** *L* **28** # **1035**
Gustafsson, Jonas Ericsson

Comment Type **E** *Comment Status* **D**
It is not clear if the 2-point, 512 point and 1024 point costellations are mandatory or optional. Use correct wording.

SuggestedRemedy
Replace "are" with "shall be" if mandatory.
Replace "are with "should be" if optional.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
This is mandatory. Replace "are" with "shall be".

Cl **62** *SC* **62.5.2.2.1** *P* **338** *L* **52** # **1034**
Gustafsson, Jonas Ericsson

Comment Type **E** *Comment Status* **D**
Reference to non-existing "Table 3".

SuggestedRemedy
Reference to correct table.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Reference Table 62-12.

Cl **62** *SC* **62.5.2.2.4** *P* **340** *L* **43** # **525**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
According to the IEEE Standards Style Manual, "must" is used only to describe unavoidable situations. This sentence is a requirement.

SuggestedRemedy
Replace "The transceiver must ... are supported." with "The transceiver shall support all excess bandwidth parameters in the range between 0.1 and 0.2 (0.1 and 0.2 included) with granularity of 0.025."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62** *SC* **62.5.2.2.4** *P* **340** *L* **44** # **1123**

Behrooz Rezvani Ikanos Communication

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

the text "The transceiver must provide the excess bandwidth parameter of 0.2. Other excess bandwidth parameters, in the range between 0.1 to 0.2 with granularity of 0.025 are supported." Does this mean required or optional?

SuggestedRemedy

Use Shall if this is mandatory

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See also comment #525.

Cl **62** *SC* **62.5.3** *P* **342** *L* **28** # **1124**

Behrooz Rezvani Ikanos Communication

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

the text Given the complexity of achieving 10 Mbps over all loop types it is possible to get many data rates based on different implementation of the receiver. In the Ethernet tradition for 100BASE-T one only faces one type of transmission line with well defined behavior and therefore there was no need to describe the type of receiver. This is not the case in 802.3ah. Receiver equalizer may be carefully defined and well bounded. Various implementation of the receiver equalizer will result into very different performance variation. The order of Fed Forward and Feedback section can be specified. If this is not done properly two PHY can claim meeting the specs while achieving different results.
See Rezvani-1_0903 for ideal performance

SuggestedRemedy

for example set a feedword section and a feedback section with some bound in performance as shown in Rezvani_1_0903. One example one can specify in the following way: " the performance of the receiver equalizer can be have an equivalent FF section of TBD Tabs and a feedback section of TBD taps at maximum TBD symbol rate

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Performance issues are a legitimate concern, which should preferably be addressed by adding appropriate test cases to Annex 62B. Specifications in Clause 62 should focus on interoperability and interchangeability.
STF needs to hear rezvani_1_0503.pdf, and decide which action needs to be taken.

Cl **62** *SC* **62.5.4** *P* **343** *L* **3** # **1122**

Behrooz Rezvani Ikanos Communication

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

The RFI notches for Ham egress has been defined to be of 6 pole. This does not specify which kind of 6 order filter is implemented. If the type of filter is not defined that would result into multiple implementations. Because of variation in implementation in the transmitter the receiver performance also varies, forcing different performance variation over very large loop types- see rezvani_1_0903

SuggestedRemedy

The notch filter shall be digital filter of Butterworth type with 6 poles.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Performance issues are a legitimate concern, which should preferably be addressed by adding appropriate test cases to Annex 62B. Specifications in Clause 62 should focus on interoperability and interchangeability.
STF needs to hear rezvani_1_0503.pdf, and decide which action needs to be taken.

Cl **62** *SC* **62.5.5** *P* **345** *L* **18** # **573**

Venugopal, Padmabala UNH-IOL

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

Inconsistent terms EFM-O and EFM-R

SuggestedRemedy

Change EFM-O and EMF-R to 10PASS-TS-O and 10PASS-TS-R respectively in line 18 and 19.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **62** *SC* **62A.3.1** *P* **456** *L* **49** # **1116**

Behrooz Rezvani Ikanos Communication

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

The following is not consistent with the notes to editor on March 02, it was understood that band plans may have to change. “Each of 5 standard frequency bands (Band 0, D1, U1, D2, U2) used for 10PASS-TS communication are defined in a bandplan. 10PASS-TS PHYs operating in the same cable bundle should use the same bandplan to ensure spectral compatibility. Furthermore, the selection of bandplan may be governed by regional regulations that pertain to the deployment.”

SuggestedRemedy

Since the SCM PHY supports only 4 bands while MCM is not limited to 4, it is recommended to correct this section as follows:

Each of 5 standard frequency bands (Band 0, D1, U1, D2, U2) as well as any modification to these bands including any further increase to the number of bands can be used for 10PASS-TS PHYs operating in the same cable bundle. For SCM operation only 4 bands are allowed to be present simultaneously as described in the section 62.5. Furthermore, the selection of bandplan may be governed by regional regulations that pertain to the deployment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

As pointed out by the commenter, there are differences in the way each of the 10PASS-TS PMA/PMD candidates will implement the band plan requirements of Annex 62A. However, the specifics and limitations of each candidate belong in Clause 62.

Add text at the end of the paragraph: "The use of band plans other than the ones listed in Table 62A-1 may be restricted by the limitations of the PMD (see 62.4 and 62.5)."

Note that while T1.424 Part 2 makes a passing reference to Band0 (8.2.2/Table 24), this section is not referenced in Clause 62.

Cl **62** *SC* **62A.3.3** *P* *L* **Table 62A.** # **1117**

Behrooz Rezvani Ikanos Communication

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

remove TBD for Annex F

SuggestedRemedy

And replace with table below

Band start (kHz)
Band stop (kHz)

1810
1825

1907.5
1912.5

3500
3575

3747
3754

3791
3805

7000
7100

10100
10150

14000
14350

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add appropriate band plan to Table 62A-2 and proposed notches to Table 62A-3. See also comments #511 and #512. Resolution of comment #513 may apply.

Cl **62** *SC* **62A.3.5** *P* **458** *L* **45** # **1118**

Behrooz Rezvani — Ikanos Communication

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

The downstream date rates can be further improved for very short lines, specially where majority of applications are for downloading big files

SuggestedRemedy

Payload profile: add 75 Mbps to the list. Under very short loop 10PASS-TS can support 75 Mbps (and 100 Mbps can be achieved by reducing U2 and creating D3. For this case allow U2's bandwidth to be from 8.5 to 9 MHz. Generate D3 from 9 MHz to 12 Mhz. Note that total downstream bandwidth becomes approximately 10 MHz. This gives the opportunity for technologies with 11 or more bits/Hz to achieve 100 Mbps in downstream direction with 10 MHz in downstream direction. It is to be noted that by doing this the first 9 MHz is spectrally compatible with i.e. plan 998)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Needs discussion in the STF.

Cl **62** *SC* **Table 62-4** *P* **323** *L* **40** # **906**

Tom Mathey — Independent

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

The text "Additional PMA failures can be indicated using spare bits of Control octets 1 and 2." is bad text.
The beauty of Etherenet is that vendor specific use of spare bits is not allowed. Such usage introduces interoperability problems.

SuggestedRemedy

Delete text.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **62A** *SC* **62A.3.1** *P* **457** *L* # **1036**

Gustafsson, Jonas — Ericsson

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

There exists line-code specific limitations when selecting bandplan allocations.
The section together with table 62A-1 let you know that bandplans may specify to use up to 5 standard frequency bands. However, due to the structure of SCM PMD sublayer it is effectively only allowed to use 4 bands. If one desire 5 bands, band 0 direction (U/D) must be set equal to band 1.

SuggestedRemedy

Add a note with the follwing text:
SCM PMD sublayer restrics the usage of band 0. When operating in 5 band mode, band 0 must be in same direction (U/D) as band 1.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add proposed text. Integrate with text proposed in comment #1116.

Cl **62A** *SC* **62A.3.1** *P* **457** *L* **33** # **511**

Beck, Michael — Alcatel Bell nv

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

Annex F band plan and PSD Masks are missing from Table 62A-1 .

SuggestedRemedy

Add PSD masks from ITU-T Recommendation G.993.1 Amendment 1 Annex F, and add G.993.1/A1 to the list of references.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See also comment #1117. Resolution of comment #513 may apply.

Cl **62A** *SC* **62A.3.1** *P* **458** *L* # **1114**

Simon, Scott — Cisco Systems, Inc.

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

The "fx" parameter in bandplan C is too variable. Pick one or two of the settings for the bandplan C, not 33 different ones as the text describes. maybe copy 997 and 998 and simplify!)

Remember that finer grained control is still avaliable for in Clause 45.

SuggestedRemedy

Fix the Fx parameter so that bandplan C is the same as 997 and 998.
Remove

Change the text to read "The Bandplan C is also supported when Fx = 8.5MHz and when Fx = 7.05MHz"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Plan A and B only describe two simple bandplans. In the Bandplan C definition in the referenced Annex C/G.993.1, FX is defined as a "variable frequency". A variable frequency allows other bandplans that will do much better for symmetrical applications.

Cl **62A** *SC* **62A.3.2.1** *P* **458** *L* **13** # **512**

Beck, Michael — Alcatel Bell nv

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

Table 62A-2: Annex F band plan is not specified.

SuggestedRemedy

Insert band plan definition from ITU-T Recommendation G.993.1 Amendment 1 Annex F, and add G.993.1/A1 to the list of references.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **62A** *SC* **62A.3.2.2** *P* **457** *L* **51** # **855**

Carlo, James — J.Carlo Consulting sup

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

Replace TBD with the following: In order to optimize performance for the nominal 10Mbps Upstream and 10Mbps Downstream rate, add a bandplan that divides Band D1 into a Band D1u and Band D1d. Band D1u would be used to increase the available spectrum for upstream to give greater performance at 10/10. Paper ITU DC-044 ("G.vdsl: A Modified Bandplan 998 and PSD Mask for Variable Symmetric Rate VDSL Applications.", GlobespanVirata, Durango, Colorado 14-18 April 2003), illustrates that an increase of about 25% in reach (from 2.5 kfeet 3.2kfeet) can be achieved with this modification. Assuming that the subscribers connected depends on the square of the reach, this would result in an increase of 63% of possible subscribers covered at 10/10 rate.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
There is a strong preference to have another bandplan other than 998 for symmetrical applications. T1E1.4 has approved in principle to consider a bandplan similar to the one suggested in the comment. (In contribution 203R1 spectral compatibility was proven and bandplan was shown to have better performance.)
See also comment #616.

Cl **62A** *SC* **62A.3.4** *P* **458** *L* # **1113**

Simon, Scott — Cisco Systems, Inc.

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

Frequency ranges above 12MHz are out of scope, so we don't need notches above 12MHz.

SuggestedRemedy

Remove the notches #7-#11 in Table 62A-3

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Table 62A-3 is for information. Information about notches above 12MHz will be very useful to some readers, even though use of these frequencies is out of scope.

Cl **62A** *SC* **62A.3.4** *P* **459** *L* **1** # **513**
Beck, Michael Alcatel Bell nv

Comment Type **TR** *Comment Status* **D**
Band notches from G.993.1 Table F-5 are missing from Table 62A-3.

SuggestedRemedy
Insert band notch definitions from ITU-T Recommendation G.993.1 Amendment 1 Annex F, and add G.993.1/A1 to the list of references.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
Resolution of comment #1113 may apply.

Cl **62A** *SC* **62A.3.5** *P* **458** *L* **47** # **844**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D**
While there may be 9 symmetric and 72 asymmetric Payload Rate Profiles, should not the 10/10 be given some greater weight. This section seems to imply all payload rates have equal footing - whereas I thought that 10/10 was nominal.

SuggestedRemedy
add a sentence in the second paragraph. "The 10Mbps Downstream Payload Rate and the 10Mbps Upstream Payload Rate (10/10) corresponds to the nominal rate for 10BASE-TS links."

Proposed Response *Response Status* **W**
PROPOSED REJECT.
The only special status of the 10/10 profile, is due to the fact that it corresponds to the original objective. This objective lives on in 62.1.2.

Cl **62B** *SC* **62B** *P* **461** *L* **6** # **531**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
Title: Wrong name for port type.

SuggestedRemedy
Replace "10PASS-T" with "10PASS-TS".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62B** *SC* **62B** *P* **462** *L* **1** # **1021**
Barrass, Hugh Cisco Systems

Comment Type **T** *Comment Status* **D**
This Annex appears to be empty...

SuggestedRemedy
Fill it with the contents of:

barrass_cmnts_1_0503.pdf

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Numbers to be confirmed after discussion in the STF.

Cl **62B** *SC* **62C-3** *P* **465** *L* **1** # **845**
Carlo, James J.Carlo Consulting sup

Comment Type **E** *Comment Status* **D**
I think "reduced" is a better word than "masked" in the top line. This is because the PSD is reduced by Power Back-Off rather than "masked".

SuggestedRemedy
Change "masked" to "reduced".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62C** *SC* **62C.1** *P* **464** *L* **12** # **523**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
According to the IEEE Standards Style Manual, "must" is used only to describe unavoidable situations. This sentence is a recommendation (to configure the PSD mask in a certain way).

SuggestedRemedy
Replace "must" with "should".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Replace "must" with "can".

Cl **62C** *SC* **62C.1** *P* **464** *L* **21** # **524**
Beck, Michael Alcatel Bell nv

Comment Type **E** *Comment Status* **D**
According to the IEEE Standards Style Manual, "must" is used only to describe unavoidable situations. This sentence is a suggestion (to use Clause 45 registers).

SuggestedRemedy
Replace "must" with "can".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62C** *SC* **62C.2.2** *P* **464** *L* **33** # **1120**
Behrooz Rezvani Ikanos Communication

Comment Type **T** *Comment Status* **D**
The example needs to be more clear with well defined PSDs. See similar comment

SuggestedRemedy
Show a PSD that is different current standards bandplans. Otherwise delete section

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Need specific remedy.

Cl **62C** *SC* **62C.2.2** *P* **464** *L* **42** # **1119**
Behrooz Rezvani Ikanos Communication

Comment Type **T** *Comment Status* **D**
Make the example more clear for PSD variation and also show meeting the spectral compatibility requirements (i.e. set in ANSI) that is applicable not only to private networks but also can be shown to be spectrally friendly for deployment in public network

SuggestedRemedy
Replace the TBD with example PSD that was given in 61.A rev 1.0 or 1.1of the this document

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62C** *SC* **62C.3.1** *P* **465** *L* **10** # **539**
Shohet, Zion Infineon

Comment Type **E** *Comment Status* **D**
need to insert text instead of the editor note

SuggestedRemedy
- delete the editor note.
- add the following text:
The definition of TX PSD Level register enables to configure the PSD levels to the range of -36 dBm/Hz to -164 dBm/Hz, in steps of 1/4 dBm/Hz. This range covers all currently defined PSD's, including ADSL PSD, and including PSD levels that are the results of Power-Back-off algorithm.
For example, writing to register 1.x the value 00BC Hex (=188 decimal) will result in a -53 dBm/Hz PSD level for DS carrier 1 (188/4-100=-53).
This example holds also for the Remote side (NT) TX PSD Level register, and for all carriers.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **62C** *SC* **62C.3.1** *P* **465** *L* **8** # **538**
Shohet, Zion Infineon

Comment Type **E** *Comment Status* **D**
references to clause 45 are wrong.

SuggestedRemedy
replace 45.4.1.11 with 45.4.1.13
replace 45.4.1.12 with 45.4.1.14

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **63** *SC* *P* *L* # **99301**
Squire, Matt Hatteras Networks

Comment Type **T** *Comment Status* **D** *D1.3 #793*
T1E1.4 has recently adopted higher constellations and altered bandplans for SHDSL operation in North America. Clause 63 (and 63A and 63B) should be allowed to take advantage of these adopted constellations and PSDs.

SuggestedRemedy

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

COMMENT HISTORY:
---March 2003---
Propose to give the editor the freedom to supply text in support of 32PAM constellations and of the new PSDs adopted in T1E1.4.
PROPOSED ACCEPT IN PRINCIPLE.
Approve: 12 Don't Approve: 14 Abstain: 2
PROPOSED REJECT.
Approve: 14 Don't Approve: 12 Abstain: 3

Cl **63** *SC* **63.2.1** *P* **353** *L* **4** # **589**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Typo: "plesiosynchronous mode"

SuggestedRemedy
Change to "plesiochronous mode"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **63** *SC* **63.2.1** *P* **353** *L* **9** # **475**
Squire, Matt Hatteras Networks

Comment Type **E** *Comment Status* **D**
We should probably reference Eq (1) in 63.3.2.1

SuggestedRemedy
Include reference to 63.3.2.1 where Eq (1) is listed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **63** *SC* **63.2.2** *P* **353** *L* **18** # **617**
Jackson, Stephen Hatteras Networks

Comment Type **T** *Comment Status* **D**
G.991.2 Annex D is out of scope for 2BASE-TL?

SuggestedRemedy
Delete text "Reference Annex D (Signal Regenerator Option)" and add text at end of paragraph:

"Deployment of compatible versions of G.991.2 Annex D is an implementation specific option for the purposes of 2BASE-TL."

Make a similar change for 63.3.2, page 354, line 53.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Use of regenerators was declared out of scope in resolution of comment #790/D1.3. That statement should remain in the text.
However, we want to encourage implementers of 2BASE-TL to use G.991.2 compliant regenerators if they use any regenerators.
Add note: "Deployment of compatible versions of G.991.2 Annex D is an implementation specific option for the purposes of 2BASE-TL.".

Cl **63** *SC* **63.3.1** *P* **354** *L* **34** # **592**
Horvat, Michael Infineon Technologies

Comment Type **E** *Comment Status* **D**
Typo: "plesiosynchronous mode"

SuggestedRemedy
Change to "plesiochronous mode"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **63** *SC* **63.3.2.1** *P* **355** *L* **25** # **477**

Squire, Matt — Hatteras Networks

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

There doesn't appear to be a reason for the 32-TCPAM rates to be limited to 36<n<=48. We should be able to use 32-TCPAM at 3<=n<=48 when achievable, and while using a less aggressive symbol rate. The symbol rate and constellation should be part of the profile information.

SuggestedRemedy

Replace line 25 wtih
3<=n<=48.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Would suggest n=12 as lower limit for C-32 rather than n=3.

Cl **63B** *SC* **63B.3** *P* **472** *L* **48** # **521**

Beck, Michael — Alcatel Bell nv

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

According to the IEEE Standards Style Manual, "will" is only used in statements of fact. This sentence is a requirement (to use the 768 kb/s set).

SuggestedRemedy

Replace "will" with "shall".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* *P* *L* # **383**

Wu, Mingwei — Institute for Infocomm

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

Discovery processing and Gate processing share a lot of similarity. For simplicity, propose merging the 2 blocks. Figure 64-20 and Figure 64-28 can be merged. Figure 64-21,27 remain.

SuggestedRemedy

See attachment mingweiApril03.ppt

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
There are still some problems remain with the proposed diagram:

1. in transition from WAIT FOR GRANT WINDOW to CHECK GATE TYPE, the currentGrant is not initialized.
2. stopTime value should be calculated in TURN LASER ON. This variable is used by the Control Multiplexor
3. StartTime variable may need to be updated in GRANT DONE B2B state
4. State machine doesn't work for case of HIDDEN GRANT, i.e., one grant is completely inside another grant.

The above problems were fixed for gate processing state machine in kramer_p2mp_2_0503.pdf. Suggest the commenter incorporate the fixes into the combined state diagram.

Cl **64** *SC* **2.1** *P* **365** *L* **25** # **289**

Hirth, Ryan Terawave Communica

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

Definition of the clocking scheme must be defined and added. This was not closed in the last meeting. There were two methods proposed: loop timing and independent upstream.

Loop timing uses the recovered receive clock to clock the upstream data. This will greatly reduce the guard time at the OLT since all ONU will operate on the same time base. Jitter transfer must be defined if this method is used.

Independent upstream timing use a local oscillator to transmit upstream. This breaks any clocking dependencies and is more resilient when the receive clock is lost. The PPM difference between a oscillators may be up to 200ppm which must be compensated for in the guard time.

SuggestedRemedy

The ONU shall transmit with an independent oscillator of +/-100pm. The ONU MPCP timers shall operate off of the recovered clock.

Use of an independent oscillator will eliminate the jitter transfer. This will decrease the timing jitter in the upstream thus increasing the horizontal UI on the OLTs receiver. This will help increase the performance of the OLTs receiver (which is one of the most critical components in a PON system).

In order to prevent the increase in guard time which results from independent oscillators, the local_time, grant_window_timer, and grant_start_timers shall operate off of the recovered receive clock at the ONU. This will maintain the time reference at the OLT.

A jabber function should run off of the transmit clock which prevents the laser_on from being stuck on in the case of loss of receive clock. Refer to comment #xxxx.

This solution provide the best of both worlds, no jitter transfer and no increase in guard time.

Proposed Response *Response Status* **W**

For joint discussion with PMD group

Cl **64** *SC* **3** *P* **381** *L* **34** # **266**

Pietilainen, Antti Nokia

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

There is a typo

SuggestedRemedy

Change:

Additionally, this counter is used to set the value of timestamp field whenever the ONU receives MPCPDUs.

to:

Additionally, the counter value is set according to the value of timestamp field whenever the ONU receives MPCPDUs.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **3** *P* **381** *L* **35** # **267**
Pietilainen, Antti Nokia

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

The new draft does not reflect the agreement in last meetining of not embedding processing delay in RTT. Changes should be made in rows 35 and 40 accordingly.

SuggestedRemedy

Maybe the embedding remainded because the remaining components of the delay were discussed too briefly.

Please take a look at related contribution, p. 1. A major part of what we have considered as processing delay is delay component B. The delays, on the other hand, that were discussed very briefly are delays A and D. They are difficult because they involve some delay that occurs in physical layer which is external to EPON MAC control. Also, the gate message has to be at least partially parsed for being able to extract time stamp. This is part of delay A.

Similar delay D happens when report (or register req.) message is launched.

At the moment, the text on p. 381 r. 35 and 40 proposes to insert time stamp = counter value - processing delay

For following the decision made in last meeting one should insert actually time stamp = counter + A + D instead (and send the packet a little bit in advance to compensate for A and D.

Or even better, see p. 2,
Set
counter value = time stamp (of gate message) + A
upon receiving gate message and
time stamp (of report message) = counter value + D
upon transmitting report message

The remaining work item would be to decide upon a max. error in compensating A + D. A proposed value discussed in March meeting was, I recall a value 16 (or 32) bit times per interface which would make 4 x 16 (or 32) ns for total round trip, thus 32 (64) ns at ONU end and 32 (64) ns at OLT end.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Draft should not specify the delay component for partially parsing the messages as it is a implementation decision. It is enough to require the same reference point for setting the timestamp value and reading it.

Not specifying the reference point may lead to the situation that OLT expects the transmission from an ONU at time T, but it will actually arrive at T + A - D. (That will happen to all ONUs, so there still won't be any collisions.)

Cl **64** *SC* **3.3.2** *P* **377** *L* **43** # **377**
Takaaki, Toyama Hitachi Communication

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

There is an error in writing. The word "ILDE" should be corrected to "IDLE".

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **63.3.8.6** *P* **390** *L* **15** # **195**
Gan, Xiaodan Institute of Microelectr

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

In reference to the figure 64-17, OMP.request(grant, own_id, start_time, grant_length, ...) is not consistent with the format of the GATE message description in the sub-clause 64.4.2.

SuggestedRemedy

Change OMP.request(grant, own_id, start_time, grant_length, ...) to OMP.request(DA, SA, opcode<=GATE, discovery, start_time, grant_length, ...).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64** *P* **359** *L* **9** # **907**
Tom Mathey Independent

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

The definition for Discovery says almost nothing about Discovery, but does say an awful ot about Registration.
The definition for Registration says almost nothing about Registration.

SuggestedRemedy

Move Registration text from Discovery to Registration.
Provide relevant text for Discovery.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Discovery and Registration are closely related processes. Editor will add a sentence describing contention-based discovery mechanism.

Cl **64** *SC* **64.1** *P* **360** *L* **53** # **659**
Glen Kramer Teknovus

Comment Type **E** *Comment Status* **D**
''tree nodes'' should read ''tree leaves''

SuggestedRemedy
Change "nodes" to ''leaves''

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1** *P* **360** *L* **54** # **660**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
''Higher layers located at the OLT are responsible for timing . . .'' -- This sentence is too vague.

SuggestedRemedy
1. Place third paragraph on page 361 ahead of this sentence.
2. Modify the sentence in question to read ''MPCP is responsible for timing . . .''

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1** *P* **360** *L* **54** # **200**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
In reference to the sentence, "Higher layers located at the OLT are responsible ..", it is not clearly stated that the 'higher layers' are refering to the layers above the Mac Control sublayer.

SuggestedRemedy
Suggest changing the above sentence to:

" Higher layers of the MAC Control sublayer at the OLT are responsible for timing the different transmission ".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

See #660

Cl **64** *SC* **64.1** *P* **361** *L* **5** # **110**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
The referred subsection is not appropriate.

SuggestedRemedy
Replace "65.1.3.1.2" with "65.1.2.4.2".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1** *P* **361** *L* **9** # **205**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
In reference to the sentence, "This clause specifies the Multi-Point Control Protocol (MPCP) to operate an optical multi-point network by defining ... ".

This is the first time in the clause the phrase "optical multi-point" appears and it is best to append the abbreviations "OMP" to the phrase as standard practice.

SuggestedRemedy
Suggest changing the sentence above to:

" This clause specifies the Multi-Point Control Protocol (MPCP) to operate an optical multi-point(OMP) network by defining ... ".

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The references to OMP should be removed from clause 64.

Cl **64** *SC* **64.1.1** *P* **361** *L* **28** # **661**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
''f) Disclosure of PMD receiver parameters allowing flexibility in design of PMD''

Design of PMD has nothing to do with clause 64.

SuggestedRemedy
Remove item f) from the list of objectives.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **361** *L* **38** # **662**
Glen Kramer Teknovus

Comment Type **E** *Comment Status* **D**
''optical multi-point network'' should be ''optical point-to-multi-point network''

SuggestedRemedy
See comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **362** *L* **22** # **210**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
In reference to Figure 64-2, there is a spelling error in the word " INDEPENDANT ".

On line 26,
There is an error in the phrase " OLT = OPTICAL LINE TERMINATION ". The correct word should be OPTICAL LINE TERMINAL.

SuggestedRemedy
Correct the spelling error to "INDEPENDENT".

Correct phrase for line 26 is "OLT = OPTICAL LINE TERMINAL".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **362** *L* **25** # **95**
Karasawa, Satoru OF Networks

Comment Type **E** *Comment Status* **D**
In Figure 64-2, there is an explanation "OAM". However, this figure does not have the OAM layer.

SuggestedRemedy
Add the OAM layer between LLC and Multi-point MAC layer.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **362** *L* **30** # **626**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Reword the first sentence to use a 'shall'.

SuggestedRemedy
Change beginning of sentence to read: The Multi-Point MAC Control functionality shall be implemented for subscriber access devices containing point-to-mutlipoint physical layer devices defined in #CrossRef# Clause 58, and is optional for all other IEEE 802.3 devices. If this change is accepted, also add the appropriate PICS item.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **362** *L* **30** # **640**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
This sentence seems to be out of place here. It may be better suited for subclause 64.1, at the end.

SuggestedRemedy
Move sentence to line 12 of page 361.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **362** *L* **35** # **627**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Figure 64-3 doesn't appear to contain any information that is not already contained in Figure 64-2.

SuggestedRemedy
Remove Figure 64-3 and update the reference to this figure on line 1 of page 363 to reference Figure 64-2.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2** *P* **363** *L* **9** # **111**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
The referred subsection is not appropriate.

SuggestedRemedy
Replace "65.1.3.2" with "65.1.2.4".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.2.** *P* **361** *L* **50** # **663**
Glen Kramer Teknovus

Comment Type **E** *Comment Status* **D**
''The Multi-Point MAC Control protocol is specified such that it can support new functions''

should read

''The Multi-Point MAC Control sublayer is specified such that it can support new functions''

SuggestedRemedy
Replace ''protocol''.with ''sublayer''

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* # **1045**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
OMP is not shown here in Figure 64-4

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

References to OMP should be removed from text

Cl **64** *SC* **64.1.3** *P* **364** *L* **10** # **209**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The "MA_CONTROL.indicationt()" should be "MA_CONTROL.indication()".

SuggestedRemedy
Suggest changing the "MA_CONTROL.indicationt()"into "MA_CONTROL.indication()".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* **10** # **628**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
If Figure 64-4 MA_CONTROL.indicationt() is spelled incorrectly.

SuggestedRemedy
Replace with MA_CONTROL.indication()

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* **10** # **677**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
In, Fig. 64-4, the MA_DATA.request arrow wronlgy points to Flow Control box. and the processing blocks' section number is wrong.

SuggestedRemedy
Make it point to the Control Multiplexer.
correct the subclause number of three processing blocks.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

T, not E

MA_DATA.request should go through Flow Control block because Flow Control should be able to block data frames.

Cl **64** *SC* **64.1.3** *P* **364** *L* **17** # **114**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-4, the name of message from the Control Parser to the OMP block is not indicated. Also, the name of message from the OMP block to the Control Multiplexer is not indicated.

SuggestedRemedy

"Opcode-specific function activation" should be indicated as the name of the former message. Also, "TransmitFrame(DA, SA, m_sdu)" should be indicated as the name of the latter message.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* **19** # **222**

Zheng, Caihua I2R

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

Since the OMP function block is still existing in the whole draft, there should be a block called OMP surrounding the three blocks (Discovery, REPORT and GATE processing). At the same time, the "OMP.request()" and "OMP.indication()" should be used as the interfaces between OMP block and Control Multiplexer, OMP block and Control Parser respectively.

SuggestedRemedy

Suggest drawing a dashed line frame called OMP surrounding the three blocks (Discovery, REPORT and GATE processing). At the same time, marking the interfaces between OMP and Control Multiplexer, OMP and Control Parser as "OMP.request()" and "OMP.indication()" respectively.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

References to OMP should be removed from clause 64.

Cl **64** *SC* **64.1.3** *P* **364** *L* **20** # **113**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-4, the OMP block is not indicated.

SuggestedRemedy

The OMP block containing the Discovery processing, the REPORT processing, and the GATE processing should be indicated in this figure.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

References to OMP should be removed from clause 64

Cl **64** *SC* **64.1.3** *P* **364** *L* **22** # **112**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-4, the referred subsections are not appropriate.

SuggestedRemedy

Replace "64.3.6", "64.3.7", and "64.3.8" with "64.3.8", "64.3.9", and "64.3.10", respectively.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* **30** # **216**

Zheng, Caihua I2R

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

As a variable, the "TransmitEnable[1]" should begin with a lower case letter and be "transmitEnable[1]". The same case with those in the following lines.

SuggestedRemedy

Change "TransmitEnable[1]" into "transmitEnable[1]". Change those in the following lines similarly.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.1.3** *P* **364** *L* **41** # **213**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The parameter of "Length/type" should be "lenghtOrType" for the consistency.

SuggestedRemedy
Change "Length/type" in this line into "lengthOrType" and change that one in line 20 of page 366 accordingly. Similarly change all those in the whole draft.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Refer to Figure 31-2 in the 802.3 standard.

Cl **64** *SC* **64.2** *P* **365** *L* **11** # **641**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Spelling error on 'blocks'

SuggestedRemedy
Replace with 'block'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2** *P* **365** *L* **11** # **96**
Karasawa, Satoru OF Networks

Comment Type **E** *Comment Status* **D**
"This blocks is responsible for..." is a typo.

SuggestedRemedy
Change the words "This blocks is " to "This block is ".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2** *P* **365** *L* **21** # **643**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Clause 31 annexes block is not labeled as such in Figure 64-4.

SuggestedRemedy
Rename Flow Control Annex 31B block to Clause 31 annexes or rename bullet e to Flow Control Annex 31B.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Cl **64** *SC* **64.2** *P* **365** *L* **23** # **642**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
The Optical Multi-Point (OMP) block described in bullet f is not pictured in Figure 64-4. I'm assuming it's a superblock that contains the Discovery, Report, and Gate blocks.

SuggestedRemedy
Either draw dotted line box around discovery, report, and gate blocks, labeling this box as OMP, or change bullet f to say "Discovery, Report, and Gate Processing. These blocks are responsible..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

change bullet f to say "Discovery, Report, and Gate Processing. These blocks are responsible …"

remove references to OMP throuout the text

Cl **64** *SC* **64.2** *P* **365** *L* **47** # **834**
Tae-Whan Yoo ETRI

Comment Type **E** *Comment Status* **D**
OMP block is not shown in Figure 64-4.

SuggestedRemedy
It would be better to explicitly draw a OMP block which includes 3 optical multi-point function blocks namely the blocks for Discovery, Report, and Gate.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

see #642

Cl **64** *SC* **64.2** *P* **423** *L* **11** # **787**
Bemmel, Vincent Alloptic

Comment Type **E** *Comment Status* **D**
change 'blocks' to 'block'

SuggestedRemedy
change 'blocks' to 'block'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **365** *L* **42** # **644**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Spelling error 'thes'

SuggestedRemedy
replace 'thes' with 'the'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **365** *L* **42** # **116**
Ken, Murakami Mitsubishi Electric

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

SuggestedRemedy
Replace "with thes same interface" with "with the same interface".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **365** *L* **48** # **664**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
All Multi-Point MAC Control instances generate ReceiveFrame calls.

SuggestedRemedy
Replace "...instance generates ..." with "... instances generate ..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **365** *L* **53** # **201**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
Add Clause in front of 3.4 for readability

SuggestedRemedy
Change to:
Invalid frames, as specified in Clause 3.4...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **366** *L* **14** # **645**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
The sentence starting "Implementation of the Multi-Point..." is essentially a redundant statement that first appears on line 30 of page 362. I recommend combining both of these sentences into a single sentence and placing it on or near line 12 of page 361.

SuggestedRemedy
Remove the sentence and place near line 12 of page 361 as: "The Multi-Point MAC Control layer and functionality shall be implemented for subscriber access devices containing point-to-mutlipoint physical layer devices defined in #CrossRef# Clause 58, and is optional for all other IEEE 802.3 devices. However, a MAC Control client cannot assume the existence of additional MAC Control functions, as defined in Clause 31 annexes, in a remote DTE."

If the 'shall' is added, then a PICS item needs to be generated.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.1** *P* **366** *L* **26** # **199**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
"The Client" in this line should be specified as "MAC Client", because the MA_DATA.request is generated from the MAC Client.

SuggestedRemedy
Suggest changing "The Client" into "The MAC Client".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.2** *P* **366** *L* **35** # **646**
Lynskey, Eric UNH-IOL

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

SuggestedRemedy
Change 'can not' to 'cannot'

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.2** *P* **366** *L* **42** # **219**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The "transmissionInProgress[1..n]" should be "transmitInProgress[1..n]" according to the figure 64-4 in page 364.

SuggestedRemedy
Change the "transmissionInProgress[1..n]" as "transmitInProgress[1..n]". And change all those "transmissionInProgress" in the draft into "transmitInProgress" accordingly.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.2** *P* **366** *L* **49** # **181**
Yeo, Doreen IME

Comment Type **E** *Comment Status* **D**
Differentiate label for the instance "n" with normal text

SuggestedRemedy
Change "n" to italic

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Italic text is deprecated

Cl **64** *SC* **64.2.2** *P* **366** *L* **50** # **204**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
In this line, the sentence "see Figure 64-5" should be "see Figure 64-4". Because only in Figure 64-4 can we find the communication between Multiplexing Control and MAC Control Instance.

SuggestedRemedy
Change "see Figure 64-5" into "see Figure 64-4".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.2.2** *P* **367** *L* **24** # **576**
Williamsen, Erica IOL/UNH

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

SuggestedRemedy
change of to or MAC Control frame

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.2.6** *P* **368** *L* **24** # **648**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
The WAIT PROGRESS state in Figure 64-6 doesn't do anything and could be removed without making the diagram difficult to draw and without changing the diagram technically.

SuggestedRemedy
Remove the WAIT PROGRESS state. The exit condition from ENABLE becomes transmissionInProgress[j]=false.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

[Question to the editor: should we have any watchdogs in this diagram to ensure that any MPCP instance does not get stuck with transmitInProgress[j] = true?]

Cl **64** *SC* **64.2.3** *P* **368** *L* **42** # **835**
Tae-Whan Yoo ETRI

Comment Type **E** *Comment Status* **D**
The Control Parser includes the function of the OMP Parser which was once used in the previous draft.

SuggestedRemedy
I recommend an amendment of:
''opcode independent parsing'' -> ''opcode specfic parsing''

Proposed Response *Response Status* **W**
PROPOSED REJECT.

All opcode-specific operations should be done in opcode-specific functional blocks. By analogy with clause 31, the parser should remain opcode-independent.

Cl **64** *SC* **64.2.3** *P* **369** *L* # **1040**
kottapalli, sreen Centillium Communicat

Comment Type **E** *Comment Status* **D**
Missing signal name at the output of Control Parser

SuggestedRemedy
Please add

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See #678

Cl **64** *SC* **64.2.3** *P* **369** *L* # **369**
Jaeyeon Song Samsung Electronics

Comment Type **T** *Comment Status* **D**
In fig 64-7, 64-8, 64-9, there are not OMP.request() primitive in service interfaces.
However, in several figure of MPCP processings like fig64-21, we still have OMP.request().
The reason is the removal of OMP parser/multiplexer blocks in fig.64-4.
After removing blocks, OMP primitive is not changed or eliminated.

SuggestedRemedy
Make a clarify.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

references to OMP primitives should be removed from clause 64

Cl **64** *SC* **64.2.3** *P* **369** *L* **12** # **647**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
There is no label on the arrow on the bottom of the Control Parser block in Figure 64-7

SuggestedRemedy
Please add correct label.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See #678

Cl **64** *SC* **64.2.3** *P* **369** *L* **12** # **678**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
In Fig. 64-7, down arrow doesn't have a name.

SuggestedRemedy
give it a name "ReceiveFrame(DA,SA,Length/Type,Data)".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3** *P* **369** *L* **12** # **346**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
RecceiveFrame(DA,SA,Length/type,data) should be depicted in Figure64-7.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Modify as indicated in #678

Cl **64** *SC* **64.2.3** *P* **369** *L* **13** # **170**
Yeo, Doreen IME

Comment Type **E** *Comment Status* **D**
Missing function ReceiveFrame in Figure 64-7

SuggestedRemedy
Add call for function ReceiveFrame(DA, SA, lengthOrType, data) at Line 13

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Modify as indicated in #678

Cl **64** *SC* **64.2.3** *P* **369** *L* **13** # **575**
Williamsen, Erica IOL/UNH

Comment Type **T** *Comment Status* **D**
missing ReceiveFrame from Control Parser diagram

SuggestedRemedy
add ReceiveFrame(DA, SA, lengthOrType, data) to output arrow of the Control Parser

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

For consistency with Figures 31-2 and 64-4, call the third argument "length/type"

See #678

Cl **64** *SC* **64.2.3** *P* **369** *L* **15** # **836**
Tae-Whan Yoo ETRI

Comment Type **E** *Comment Status* **D**
The interface indication for the downward arrow was omitted in Figure 64-7.

SuggestedRemedy
I recommends to add "ReceiveFrame(DA,SA,Length/Type,data)" to the arrow in the figure.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See #678

Cl **64** *SC* **64.2.3** *P* **369** *L* **19** # **206**
Zheng, Caihua I2R

Comment Type **TR** *Comment Status* **D**
Figure 64-8, 64-9
TransmitFrame(DA,SA,m_sdu) and TransmitFrame(DA,SA,lengthOrType,data) have the same name but different parameters. It's very confusing. Suggest changing name of request from Flow Control block to a more self-explanatory name.

Suggest still group Discovery/Gate/Report together in an OMP block and standardize interface between OMP and Control Parser/Multiplexer as OMP.indication and OMP.request to distinguish from MA_CONTROL.indication/request which come from MA_CONTROL Client.

SuggestedRemedy
Update Figure 64-8, 64-9 according to comment above:
1. rename TransmitFrame(DA,SA,m_sdu) to to Data/PauseFrame(...) or any more self-explanatory name.

2. add primitive from Discovery/Gate/Report OMP.request

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

1. References to OMP is to be removed from clase 64
2. Use TransmitFrame(DA,SA,length/type,data) for consistency with MAC service interface (Figure 31-2 of existing standard)

Cl **64** *SC* **64.2.3** *P* **369** *L* **20** # **679**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D**
In Fig. 64-8, upper layer interface is wrong.

SuggestedRemedy
add two down arrows with name "MA_DATA.request" and "TransmitFrame(DA,SA,lengthOrType,data)". Fig.64-4,7,8,15,16 etc. should fit to each other.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

MA_DATA.request go into flow-control block.
All arrows into Control multiplexer are TransmitFrame

Cl **64** *SC* **64.2.3** *P* **369** *L* **43** # **117**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-9, the input "registered" is not necessary.

SuggestedRemedy

Remove this input. Additionally, remove the description of this input in 64.2.3.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The variable 'registered' should be used in Figure 64-12 as a condition for transition from INIT to GATED state.

See #837

Cl **64** *SC* **64.2.3** *P* **369** *L* **43** # **178**

Yeo, Doreen IME

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

In Figure 64-9, variable "registered" is an input to the Control Multiplexer for ONU. However, the state diagram (Figure 64-12, page 374) does not use this variable. Is it required as input?

SuggestedRemedy

If not required, please remove variable "registered"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The variable 'registered' should be used as a condition for transition from INIT to GATED state.

See #837

Cl **64** *SC* **64.2.3.1** *P* **370** *L* **13** # **97**

Karasawa, Satoru OF Networks

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

The tail_guard is a summation of preamble(8 bytes), DA(6 bytes), SA(6 bytes), Type/Length (2 bytes), FCS (4 bytes), and IPG(12 bytes as the minimum) because multiple MAC frames can be sent in one burst.

SuggestedRemedy

The default value of the tail_guard should be 38 bytes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Aslo should include the closing sequence /T/R/R/

A total of 38 + 3 = 41 bytes.

Cl **64** *SC* **64.2.3.1** *P* **370** *L* **13** # **211**

Zheng, Caihua I2R

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

PCS trailer has been changed from 6 byte to 3 byte. Change tail_guard default value accordingly.

SuggestedRemedy

change:
DEFAULT VALUE: 27

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add the minimum IFG and the length/type to the tail_guard (27 + 12 = + 2 = 41 bytes)

See #97

Cl **64** *SC* **64.2.3.1** *P* **370** *L* **18** # **218**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
In Figure 64-10 on P372 L21 uses {timestamp opcode} but its definition is not found here.

SuggestedRemedy
Add:
{timestamp opcode}
opcode of MPCPDUs that has timestamp
TYPE: short
DEFAULT VALUE:00-02, 00-03, 00-04, 00-05, 00-06

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Attribute should also be added as table in 31A

Cl **64** *SC* **64.2.3.1** *P* **370** *L* **6** # **680**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
value 4 doesn't have unit.

SuggestedRemedy
at guard_threshold and tail_guard explanation, add "in units of time_quanta(16 bits)".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.1** *P* **370** *L* **7** # **1048**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
It is not clear why there is a need for the tail_guard. Also, it calculation of the required bandwidth (send using REPORT messages), this tail_guard is not taken into account.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.

No problems were found with state diagrams.

Cl **64** *SC* **64.2.3.2** *P* **370** *L* **20** # **221**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
Figure 64-10 P372 L21 uses variable allowTimestampCorrection but its definition is not found here.

SuggestedRemedy
Add definition of allowTimestampCorrection

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

allowTimestampCorrection is to be removed.

See #665

Cl **64** *SC* **64.2.3.2** *P* **370** *L* **36** # **224**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
It is first time in this clause that "time_quanta" is mentioned. The most detailed description should come here.

SuggestedRemedy
localTime:
This variable holds the value of the local counter used to control OMP operation. This variable is advanced by a timer at 62.5MHz, and counts in time_quanta. At the OLT the counter shall track the tranmit clock, while at the ONU the counter shall track the receive clock. It is periodically reset by the OMP functional block on notification of the existence of a more accurate timebase.
The unit time_quanta is used by all mechanisms synchronized to the advancement of the local_time variable. Variable used to store counters and time intervals are defined using time_quanta. Each time_quanta is 16ns.
Changing the value of this variable while running using Layer Management is highly undesirable and is unspecified.
TYPE: 32 bit unsigned
DEFAULT VALUE: 00-00-00-00

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Counter is located in MAC Control sunlayer. Transmit and Receive clock is not available at this sublayer.

There is an ongoing discussion on clocking scheme (see #289)

Cl **64** *SC* **64.2.3.3** *P* **371** *L* **26** # **214**

Zheng, Caihua I2R

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

In the state diagrams of the Control parser in Figure 64-10, the function abs() is used but there is no available function definition specified in this clause.

SuggestedRemedy

Suggest including the function definition of abs() in this clause. A suggested definition would be:

abs(n)
This function returns the absolute value of the parameter n.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.3** *P* **371** *L* **27** # **148**

Ken, Murakami Mitsubishi Electric

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

According to the definition of timestamp(m_sdu, time), the byte location is originated with 0. On the other hand, "opcode <= data[1:16]" is indicated in the PARSE OPCODE in Figure 64-10. This means that the bit location is originated with 1. Thus, the origination of byte location and that of bit location are different.

SuggestedRemedy

I propose to describe the originations of byte location and of bit location at the beginning of 64.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Use 0-based array for referencing data (m_sdu)

Cl **64** *SC* **64.2.3.3** *P* **371** *L* **30** # **149**

Ken, Murakami Mitsubishi Electric

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

Through the document, m_sdu represents a part of MAC frame, i.e., from Length/Type to FCS. Therefore, sizeof(m_sdu) returns the size of the m_sdu in bytes. However, sizeof(data) is actually used in Figure 64-12. "data" does not contain Length/Type field.

SuggestedRemedy

Replace "sizeof(m_sdu)" with "sizeof(sdu)". The definition of "sizeof(sdu)" is as follow. This function returns the size of the sdu in bytes.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Service Data Unit (SDU) is an ambiguous term. It can represent a PHY SDU (1 octet) or Client SDU (payload of a frame).

It is better to include the DA, SA, length/type, etc. into tail_guard value. See #97

Cl **64** *SC* **64.2.3.3** *P* **371** *L* **33** # **98**

Karasawa, Satoru OF Networks

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

In line 33 and 36, the sentences should be "The MAC Sublayer primitive is called to ...".

SuggestedRemedy

Add a word "is" to sentences in line 33 and 36.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.5** *P* **371** *L* **44** # **118**

Ken, Murakami Mitsubishi Electric

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

It is not necessary to specify MA_DATA.request(DA, SA, m_sdu), MA_CONTROL.request(DA, opcode, request operand list), and MA_CONTROL.indication(opcode, indication operand list).

SuggestedRemedy

Instead of these three messages, Opcode-specific function activation and TransmitFrame(DA, SA, m_sdu) should be specified.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Currently MA_DATA and MA_CONTROL primitives are used in OLT control multiplexer state diagram. Comment #123 and #124 show the necessary changes to use TransmitFrame instead.

Additional definitions for Opcode-specific function activation and TransmitFrame(DA, SA, m_sdu) should be added

Cl **64** *SC* **64.2.3.5** *P* **371** *L* **52** # **681**

Chan Kim ETRI

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

MA_CONTROL.request and MA_CONTROL.indication don't have SA parameter. Previously specified MA_CONTROL.request and MA_CONTROL.indication didn't need DA and SA parameter because it was only for link constrained Pause operation. But Multi-poin MAC Control's Control Mux/Parser needes DA and SA (for gate,report, and others)

SuggestedRemedy

Put DA and SA in MA_CONTROL.request and MA_CONTROL.indication message definitions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.5** *P* **372** *L* **21** # **682**

Chan Kim ETRI

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

allowTimestampCorrection is not defined.

SuggestedRemedy

define allowTimestampCorrection in the variables section or use 'Master=true' rather than introducing a new variable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Modifications tp the state diagram 64-10 do not correspond to the accepted response to comment #281 from D1.3

The diagram will be changed to correspond to comment #281 from D1.3 and the variable allowTimestampCorrection will not be needed.

See # 665

Cl **64** *SC* **64.2.3.6** *P* **372** *L* # **665**

Glen Kramer Teknovus

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

Comment 281 submitted against D1.3 listed particular problems with Control Parser diagram. The proposed solution was accepted, yet the draft D1.414 shows a completely different solution which does not fix the original problems.

Here is the original comment #281

Before receiving REGISTER_REQ message, the ONU's RTT is not known, so the "timestamp - local_time" value will be very large and timestamp error will be asserted every time REGISTER_REQ is received.

Accepted solution was
1. Split OMP parser into OLT and ONU versions
2. In OLT UPDATE TIMER state should be split into UPDATE RTT and MEASURE RTT
3. MEASURE RTT is entered when opcode in {REGISTER_REQ}, otherwise UPDATE RTT is entered
4. In ONU this state should be called UPDATE LOCAL CLOCK

SuggestedRemedy

New state diagrams will be submitted.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Diagram was modified based on several comments not only based on 281.

Propose split diagram 64-10 to two sub-diagrams, ONU diagram, and OLT diagram to remove allowTimestampCorrection flag.

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **12** # **119**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-10, the message from the Control Parser to the MAC client is not specified.

SuggestedRemedy

Add "MA_DATA.indication(DA, SA, m_sdu)" in the PASS TO MAC CLIENT state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **12** # **171**

Yeo, Doreen IME

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

At the state "PARSE OPCODE" in Figure 64-10, opcode is 2-byte variable. Expressing in terms of "byte" will be clearer than in "bit"

SuggestedRemedy

Change "opcode <= data[1:16]" to "opcode <= data[1..2]"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

What if some fields are 4- bit long? Do we write data[1.0...1.5]?

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **15** # **120**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-10, "supported opcode" and "timestamp opcode" are not clear.

SuggestedRemedy

Describe the definitions of them to make the branch conditions from the PARSE OPCODE state clear.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #218

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **20** # **121**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-10, the definition and the usage of timestampError are not clear.

SuggestedRemedy

Describe the definition and the usage of timestampError.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **20** # **179**
Yeo, Doreen IME

Comment Type **T** *Comment Status* **D**
In Figure 64-10, variable "timestampError" is updated in state "PARSE TIMESTAMP". However, it is not used anywhere else in the specification.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Add TIMESTAMP ERROR state to which the transition would occur on timestampError. In this state, the following action should be performed:

1. registered = false
2. MA_CONTROL.indication(timestampError)
3. MA_CONTROL.indication(deregistered)

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **20** # **151**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The value of "timp_threshold" is 4 as defined in 64.2.3.1. The signaling speed (range) is specified in Clause 58 as 1.25 plus/minus 100 ppm. In the case of maximum clock drift condition, the ONU needs the normal GATE message every 320 maicroseconds. However, the MPCP guarantees the periodic GATE messages every 50 msec.

SuggestedRemedy
The value of "time_threshold" should be derived from the assumption that the signaling speed (range) is 1.25 plus/minus 100 ppm and the periodic GATE is issued in every 50 msec.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

There is an ongoing discussion about the clocking scheme. See #289

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **21** # **172**
Yeo, Doreen IME

Comment Type **T** *Comment Status* **D**
In Figure 64-10, variable "allowTimestampCorrection" not defined in Section 64.2.3.2

SuggestedRemedy
Add description for variable "allowTimestampCorrection" in Section 64.2.3.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

allowTimestampCorrection is to be removed. See #665

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **21** # **122**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
In Figure 64-10, the RTT and the localTime are updated in both OLT and ONU.

SuggestedRemedy
The RTT is updated in the OLT and the localTime is updated in the ONU. Therefore, the variable "Master" specified in 64.3.5 is used. In the case that "Master" is true, the RTT is updated. In the case that the "Master" is false, the localTime is updated.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The diagram will be split to OLT and ONU versions, as all other diagrams have been split. See #665

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **22** # **99**
Karasawa, Satoru OF Networks

Comment Type **T** *Comment Status* **D**
There is no difinition of "allowTimestampCorrection" that appers in Figure 64-10.

SuggestedRemedy
Add the definition of "allowTimestampCorrection".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

allowTimestampCorrection is to be removed. See #665

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **22** # **425**

GIRI K K — Wipro Technologies

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

In Figure 64.10, the variable "allowTimestampCorrection" is not explained.

SuggestedRemedy

The description of this variable can be added in Section 64.2.3.2 Variables

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

allowTimestampCorrection is to be removed. See #665

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **31** # **217**

Zheng, Caihua — I2R

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

The phrase "synchronous function" should be changed to sequential function instead, based on my understanding of the sentence.

Perhaps I maybe wrong but could the true meaning of the paragrah be paraphrased to make things clearer.

SuggestedRemedy

Suggest changing the phrase " synchronous function " to " sequential function".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This is the exactly same note as in Figure 31-4 in the current standard

Cl **64** *SC* **64.2.3.6** *P* **372** *L* **7** # **150**

Ken, Murakami — Mitsubishi Electric

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

"data" does not specified.

SuggestedRemedy

Add the definition of "data" in 64.2.3.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are inconsistencies in the existing standard where a payload of a frame is called 'data' in some places and 'm_sdu' in other places.

Also within clause 31 the Figure 31-2 uses 'length/type' field, but figure 31-4 uses 'LengthOrType' field.

Perhaps the naming conventions should be coordinated with Editor in Chief

Cl **64** *SC* **64.2.3.6** *P* **373** *L* # **239**

Zheng, Caihua — I2R

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

Since we have suggested changing the service interface of "OLT Control Multiplexer" in page 369, that is to add the "OMP.request()" and "Data/PauseFrame()" as the incoming interfaces of OLT Control Multiplexer. So we suggest using these two primitives instead of MA_DATA.request/MA_CONTROL.request to trigger the state transition of Figure 64-11 in page 373.

SuggestedRemedy

See the attached file "OLTCtrlMux.fm" for the suggesting solution.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

OLT Control Multiplexer receives TransmitFrame functions.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* # **347**

Yoshimura, Minoru NEC

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

"transmission_in_progress" used in Figure 64-11 should be "transmissionInProgress".
"transmit_pending" used in Figure 64-11 should be "transmitPending".

SuggestedRemedy

Correct according to comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **10** # **124**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-11, the state transit conditions from the TRANSMIT READY state are not correct.

SuggestedRemedy

The state transit conditions from the TRANSMIT READY state are as follows.
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8](Length/Type)=MACControl and Opcode in {GATE, REPORT, REGISTER, REGISTER_REQ, REGISTER_ACK} --> To SEND OMP FRAME state
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8](Length/Type)!=MACControl --> SEND DATA FRAME state
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8](Length/Type)=MACControl and !(Opcode in {GATE, REPORT, REGISTER, REGISTER_REQ, REGISTER_ACK}) --> To SEND CONTROL FRAME state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

TRANSMIT READY state will be entered only when a frame is available. Using TransmtFrame(...) function in conditions is not necessary. Editor will make the following modifications:

1. Parse m_sdu in TRANSMIT READY state and obtain opcode
opcode = m_sdu[0:15]

2. Use the following transition labels
TRANSMIT READY -> SEND OMP FRAME:
transmitPending = CONTROL * opcode in {timestamp opcode}

TRANSMIT READY -> SEND CONTROL FRAME:
transmitPending = CONTROL * !(opcode in {timestamp opcode})

TRANSMIT READY -> SEND DATA FRAME:
transmitPending = DATA

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **14** # **578**

Williamsen, Erica IOL/UNH

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

Figure 64-11
Line 14
transmitEnable==true

Line 14
transmitEnable==true

SuggestedRemedy

In all cases change == to symbol = (Alt-061)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **18** # **577**

Williamsen, Erica IOL/UNH

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

All state diagrams should follow state diagram conventions and use list of special symbols and operators. A boolean and should be represented with the symbol *.

Figure 64-11
Line 18
MA_Control.request and (opcode in {...})

Line 18
MA_Control.request and !(opcode in {...})

Line 19
MA_DATA.request and !MA_CONTROL.request

SuggestedRemedy

In all cases replace and with * (Alt-042)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **23** # **115**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-11, "TransmitFrame(DA, SA,m_sdu)" is not correct.

SuggestedRemedy

Replace "TransmitFrame(DA, SA,m_sdu)" with "TransmitFrame(DA, SA, TypeOrLength, data)".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **6** # **242**

Zheng, Caihua I2R

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

The varialbes of "transmissionInProgress" and "transmit_pending" should be "transmitInProgress" and "transmitPending" for consistency.

SuggestedRemedy

Suggest changing all of those "transmissionInProgress" and "transmit_pending" into "transmitInProgress" and "transmitPending" in Fugure 64-11.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **373** *L* **8** # **123**

Ken, Murakami — Mitsubishi Electric

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

In Figure 64-11, the state transit conditions from the INIT state are not correct. Also the state transit condition from the SIGNAL DATA state to the SIGNAL CONTROL state is not correct.

SuggestedRemedy

The state transit condition from the INIT state are as follows.
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8] (i.e. Length/Type)=MACControl --> To SIGNAL CONTROL state
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8] (i.e. Length/Type)!=MACControl --> To SIGNAL DATA state

The state transit condition from the SIGNAL DATA state to the SIGNAL CONTROL state is as follow.
- TransmitFrame(DA, SA, m_sdu) and m_sdu[1:8] (i.e. Length/Type)=MACControl --> To SIGNAL CONTROL state

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Should we use TransmitFrame(DA, SA, length\type, data) for consistency with MAC service interface (see Figure31-2)?

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **671**

Glen Kramer — Teknovus

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

Diagram name should be "ONU Control Multiplexer State Diagram"

SuggestedRemedy

Add "ONU"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **1041**

kottapalli, sreen — Centillium Communicat

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

Missing signal from GATED state to TRANSMIT READY Fig 64-12

SuggestedRemedy

Please add

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #668

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **668**

Glen Kramer — Teknovus

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

In Figure 64-12 in state TRANSMIT READY the text Receive Frame is wrong.
First it should be "TransmitFrame"
Second, it should be a transition label from GATED to TRANSMIT READY rather than the body of TRANSIT READY state.

SuggestedRemedy

Fix per comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **667**

Glen Kramer — Teknovus

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

In Figure 64-12, "(Txallow=true)+(tranmisssionAllowed=true)" and "(Txallow?true)*(tranmisssionAllowed?true)" are wrong. TransmitAllowed is a new name for TxAllowed.

SuggestedRemedy

The transitions should be marked "transmitAllowed = true" and "transmitAllowed = false" respectively.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **670**

Glen Kramer Teknovus

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

In Figure 64-12, in transition from CHECK SIZE state, the size of frame header, CRC, preamble, IFG is missing in the condition.

Also, in transition that bypasses TRANSMIT FRAME the comparison should be '>'

SuggestedRemedy

List specific opcodes as it was before.
Fix the comparison.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

DA, SA, CRC, preamble are included in the tail_guard.

Actions:
1. 12-byte minimum IFG and 2-byte length/type should be added to the value of tail_guard, resulting in tail_guard value = 41 bytes

2. Comparison should be changed to '>'

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **1046**

kottapalli, sreen Centillium Communicat

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

Transmit operation should include the fact that Control frames have transmission priority over Data frames.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Commenter should submit a specific recommendation

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **173**

Yeo, Doreen IME

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

In Figure 64-12,
At Line 5 & 41, variable "transmissionInProgress" is not needed for ONU as discussed in comment #241 for D1.3_comments_final.pdf
At Line 22, opcode is 2-byte variable. Expressing in terms of "byte" will be clearer than in "bit".
At Line 30, timestamp a 4-byte variable. Expressing in terms of "byte" will be clearer than in "bit".
At Line 45, label for figure should be for ONU

SuggestedRemedy

At Line 5 & 41, delete variable "transmissionInProgress"
At Line 22, change "opcode <= data[1:16]" to "opcode <= data[1:2]"
At Line 30, change "data[17:48] <= localTime" to "data[3:6] <= localTime"
At Line 45, change label for figure to "ONU Control Multiplexer state diagram"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

1. Delete 'transmissionInProgress'
2. keep existing subscripts for array data, because some fields may be delineated at byte boundary or may not be an integer number of bytes long.
3. change the title to "ONU Control Multiplexer state diagram"

Cl **64** *SC* **64.2.3.6** *P* **374** *L* # **669**

Glen Kramer Teknovus

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

In Figure 64-12 sets {supported opcode} and {timestamp opcode} are not defined.

SuggestedRemedy

List specific opcodes as it was before

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

For consistency with MAC Control state diagram Fig. 31-4,
{supported opcode} and {timestamp opcode} sets should be used.

The sets should be defined as suggested in #218

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **17** # **227**

Zheng, Caihua I2R

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

Figure 64-12

Suggest redefine primitive from Discovery/Gate/Report to Control Mux as OMP.request and primitive from Flow Control to Control Mux as e.g. DataPauseFrame. Transition from GATED to TRANSMIT READY will be triggered by these 2 primitives.

SuggestedRemedy

Transition from GATED to TRANSMIT READY will be triggered by these 2 primitives and delete ReceiveFrame in the state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

References to OMP is to be removed from the clause 64. Transition from GATED to TRANSMIT READY occurs when a frame becomes available (signaled by an invokation of TransmitFrame function).

See #668 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **17** # **128**

Ken, Murakami Mitsubishi Electric

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

The state transit condition from GATED to TRANSMIT READY is not indicated.

SuggestedRemedy

Add "TransmitFrame(DA, SA, m_sdu)" as the state transit condition from GATED to TRANSMIT READY.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

See #668

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **17** # **683**

Chan Kim ETRI

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

In Fig 64-12, in TRANSMIT READY state, ReceiveFrame means receiveing a frame from upper layer and to send it, it checks if the gate is long enough to send the frame. but ReceiveFrame is a defined function in receive direction. and the title of this figure doesn't clearly show it's for ONU.

SuggestedRemedy

In TRANSMIT READY state, change ReceiveFrame to "select_frame". select_frame should be defined in function declartion as "a function called to select the frame to transmit when TxAllowed = true and remaing current gate length is known. By selecting a frame, it is assumed possible to look at the length and LengthOrType field" This is really the case in most implementation. Also, the title should read "ONU Control Multiplexer state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #670 and #667

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **17** # **182**

Yeo, Doreen IME

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

Function "ReceiveFrame" should not be called in the state "TRANSMIT READY" of Figure 64-12.

SuggestedRemedy

Remove function "ReceiveFrame"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #668 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **35** # **684**

Chan Kim ETRI

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

In Fig 64-12, in CHECK SIZE state, branch conditioning comparison is wrong.

SuggestedRemedy

in the right branch(for case where remaining gate length is not long enough), it should read, "local_time + sizeof(data) > stop_time"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Also tail_guard should be included in the comparison

See #670

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **230**

Zheng, Caihua I2R

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

Figure 64-12
localTime and stopTime are in time_quanta while sizeof(data) and tail_guard are in bytes.

SuggestedRemedy

Suggest define a function timeof( ) which calculate time (in time_quanta) for transmission of data (in bytes).
Change to:
localTime + timeof(sizeof(data)+tail_guard)<=stopTime

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #147 for an alternative solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **177**

Yeo, Doreen IME

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

In Figure 64-12, same condition is used for both paths from state CHECK SIZE to TRANSMIT FRAME & state CHECK SIZE to INIT

SuggestedRemedy

In Figure 64-12, the condition for state transition from CHECK SIZE to INIT should be :- local_time + sizeof(data) + tail_guard > stop_time

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

(should be no minus in front of local_time)

See #670

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **349**

Yoshimura, Minoru NEC

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

The condition to move from "CHECK SIZE" to "INIT" should be "local_time+sizeof(data)+tail_guard >stop_time" in Figure64-12.

SuggestedRemedy

Correct according to comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **649**

Lynskey, Eric UNH-IOL

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

Both exit conditions from CHECK SIZE are identical. One should be <= and one should be >=.

SuggestedRemedy

On the exit condition that loops back to the INIT state, change to >=stop_time.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Should be 'strictly greater than' (>)

See #670

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **237**

Zheng, Caihua I2R

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

Both of the "local_time" in this line should be "localTime" according to that defined in line 34 of page 370.

SuggestedRemedy

Suggest changing both of the "local_time" in this line into "localTime" .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **147**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-12, the branch conditions from CHECK SIZE are not correct. "sizeof(data)" and "tail_guard" are represented in byte. On the other hand, "local_time" and "stop_time" are represented in TQ.

SuggestedRemedy

Change the branch conditions as follows.
- local_time + sizeof(data) + tail_guard <= stop_time --> sizeof(data) + tail_guard <= (stop_time - local_time) * 2
- local_time + sizeof(data) + tail_guard <= stop_time --> sizeof(data) + tail_guard > (stop_time - local_time) * 2

This remedy assumes that the guard_tail contains Length/Type and IPG.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Should we rather redefine sizeof() and tail_guards to use TQ?

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **36** # **427**

GIRI K K Wipro Technologies

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

"local_time + sizeof(data) + tail_guard = stop_time" this same condition is used for transition to TRANSMIT FRAME and INIT state.

SuggestedRemedy

In order to transition to INIT state it should be "local_time + sizeof(data) + tail_guard >= stop_time"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Conditions should be mutually exclusive: <= and >

See #670

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **41** # **228**

Zheng, Caihua I2R

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

The primitive "TransmitFrame(DA,data)" in this line should be "TransimtFrame(DA,SA,lengthOrType,data)" according to the standard definition of it.

SuggestedRemedy

Suggest changing "TransmitFrame(DA,data)" in this line into "TransimtFrame(DA,SA,lengthOrType,data)" .

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **42** # **180**

Yeo, Doreen IME

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

In Figure 64-12, function "TransmitFrame" has incomplete operands

SuggestedRemedy

Replace "TransmitFrame (DA,data)" with "TransmitFrame (DA,SA,lengthOrType,data)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **45** # **231**

Zheng, Caihua I2R

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

The caption for Figure 64-12 should be "ONU Control Multiplexer state diagram".

SuggestedRemedy

Suggest specifying the caption of Figure 64-12 as "ONU Control Multiplexer state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **45** # **100**

Karasawa, Satoru OF Networks

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

The figure 64-12 is a state diagram of ONU Control Mulltiplexer while Figure 64-11 shows the OLT Control Multiplexer. Therefore, the caption fot the Figure 64-12 should have a word ONU.

SuggestedRemedy

The caption of Figure 64-12 should be "ONU Control Multiplexer state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **45** # **424**

GIRI K K Wipro Technologies

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

The figure caption should be Figure 64-12-ONU Control Multiplexer State Diagram. Currently ONU word is missing

SuggestedRemedy

The figure name should be change to "ONU Control Multiplexer state diagram"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **45** # **837**

Tae-Whan Yoo ETRI

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

Figure 64-12 is considered to be "ONU Control Multiplexer diagram". The state diagram does not reflect the function of ONU Control Multiplexer.

SuggestedRemedy

I recommends to amend Figure 64-12 as shown in the figure attached in a separated PowerPoint file.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The name of the diagram to be changed to "ONU Control Multiplexer state diagram"

New state WAIT FOR GATE is not necessary. Transition from INIT to GATED should be labeled 'registered * transmitAllowed'.

Transition from GATED to INIT should be labeled '!registered + !transmitAllowed)'

See #667 and 670 for additional chages to the state diagram.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **5** # **225**

Zheng, Caihua I2R

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

There is no need to use the "tansmitInProgess" for ONU. So the "transmissionInProgress=false" in the "INIT" state should be taken out.

SuggestedRemedy

Suggest taking out the sentence in the "INIT" state. And also delete that in line 40 of this page.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **8** # **126**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
TXallow is not necessary.

SuggestedRemedy
Remove TXallow from the branch conditions.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Additionally the 'registered' variable should be checked here. See response to #837 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **8** # **234**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
There shouldn't be such variable called "TXallow" since it is substituted by "transmitAllowed" according to line 26 in page 370.

SuggestedRemedy
Suggest deleting the condition of "TXallow=true" and "TXallow!=true" in this line and changing the "transmissionAllowed" into "transmitAllowed".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Additionally the 'registered' variable should be checked here. See response to #837 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **8** # **348**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
Variable "Txallow" should be removed from Figure64-12.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Additionally the 'registered' variable should be checked here. See response to #837 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **8** # **176**
Yeo, Doreen IME

Comment Type **E** *Comment Status* **D**
In Figure 64-12,
1) Variable "transmissionAllowed" should be "transmitAllowed" as defined in Section 64.2.3.2
2) Variable "TXAllow" is equivalent to "transmitAllowed" i.e. "TXAllow" is used in D1.3 and "transmitAllowed" is used in D1.414

SuggestedRemedy
1) Rename "transmissionAllowed" to "transmitAllowed"
2) Remove "TXAllow" from the condition for transition between "INIT" & "GATED" states

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

Additionally the 'registered' variable should be checked here. See response to #837 for exact solution

Cl **64** *SC* **64.2.3.6** *P* **374** *L* **8** # **127**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
"tranmisssionAllowed" is not correct.

SuggestedRemedy
Replace "tranmisssionAllowed" with "transmitAllowed".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.2.3.6** *P* **473** *L* **17** # **101**
Karasawa, Satoru OF Networks

Comment Type **E** *Comment Status* **D**
ReceiveFrame(DA, SA, lengthOrType, data) in TRANSMIT READY state is typo in Figure 64-12.

SuggestedRemedy
Delete "ReceiveFrame(DA, SA, lengthOrType, data)" in TRANSMIT READY state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

See #668

Cl **64** *SC* **64.3** *P* **374** *L* **50** # **981**
Maislos, Ariel Passave

Comment Type **T** *Comment Status* **D**
Interfaces should be collected in a single location.

SuggestedRemedy
Add section as 64.3.11 or between 64.3.6 and 64.3.7 to collect content of:
64.3.8.5
64.3.9.5
64.3.10.5

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3** *P* **374** *L* **51** # **109**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
The referred figure is not appropriate.

SuggestedRemedy
Replace "Figure 64-4" with "Figure 64-3".

Proposed Response *Response Status* **W**
PROPOSED REJECT.

I think 64-4 is correct. Another comment suggested removing Figure 64-3. In this case, the Figure 64-4 will become 64-3.

Cl **64** *SC* **64.3** *P* **374** *L* **52** # **125**
Ken, Murakami Mitsubishi Electric

Comment Type **E** *Comment Status* **D**
OMP Parser/Multiplexer was integrated in Control Parser/Multiplexer.

SuggestedRemedy
Remove the description of OMP Parser/Multiplexer.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3** *P* **374** *L* **52** # **220**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The description of the function of 'a) OMP Parser/Multiplexer ' is no longer needed due to the changes made in the earlier diagrams to do away with the mentioned OMP functional blocks.

SuggestedRemedy
Remove the description of the function of OMP Parser/Multiplexer.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3** *P* **374** *L* **52** # **174**
Yeo, Doreen IME

Comment Type **E** *Comment Status* **D**
In Figure 64-4, there is no "OMP Paser/Multiplexer" block

SuggestedRemedy
Remove part a)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3** *P* **375** *L* **7** # **223**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The description of the function of the state variables is no longer needed as it does not appear in the new Figure 64-4 of this draft.

SuggestedRemedy
Remove the sentence starting with " e) State Variables. Holding information .. ".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10** *P* **397** *L* **25** # **290**
Hirth, Ryan Terawave Communica

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

A jabber function should be added to protect against continuous upstream transmission. Refer to comment #xxx for clocking definition proposal.

An independent monitor should be added to detect when the laser_on signal may be 'stuck' on. The primary cause of this would be a loss of clock in the grant timers.

Since these timers operate off of the receive clock, an independent, free running clock should be used to monitor this. The transmit clock per comment #xxx may be used for this.

SuggestedRemedy

A jabber timer reset should be asserted in the WAIT FOR GRANT WINDOW state and the transition from GRANT DONE B2B to START TX.

The jabber timer should operate on an independent clock such as the transmit clock. The jabber time expires after 2^16 time quanta (max grant length).

Expiration of the jabber timer shall force the Gate Processing ONU Activation State Diagram back to BEGIN. laserControl should be false in the WAIT FOR GRANT WINDOW.

Proposed Response *Response Status* **W**

for joint discussion with PMD group

Cl **64** *SC* **64.3.10** *P* **397** *L* **37** # **103**
Karasawa, Satoru OF Networks

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

"bew" is a typo

SuggestedRemedy

Change the "bew" to "be".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.1** *P* **398** *L* **27** # **140**
Ken, Murakami Mitsubishi Electric

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

The default value of laser_on_time is not correct.

SuggestedRemedy

Change the defalut value as 00-00-00-20 (512 nano seconds).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.1** *P* **398** *L* **34** # **141**
Ken, Murakami Mitsubishi Electric

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

The default value of laser_off_time is not correct.

SuggestedRemedy

Change the defalut value as 00-00-00-20 (512 nano seconds).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.2** *P* **399** *L* **14** # **989**
Maislos, Ariel Passave

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

Variable laserControl is not tied to clause 58

SuggestedRemedy

Map laserControl to PMD_SIGNAL.request(tx_enable)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.2** *P* **399** *L* **18** # **142**
Ken, Murakami Mitsubishi Electric

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

Typo

SuggestedRemedy

Replace "transmitAllowedtransmitAllowed" with "transmitAllowed".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.2** *P* **399** *L* **38** # **702**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
stopTime is for current gate.

SuggestedRemedy
change to "at the end of the current grant"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.3** *P* **400** *L* **1** # **156**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
If the function "insert_sorted_list(list, element)" is called when the number of grants in the list is same as the number of pending grants indicated in the REGISTER REQ message, how should the ONU behavior? The behavior in this condition should be specified.

SuggestedRemedy
In this condition, new grants should be discarded.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Behavior to be specified as silent discard of incoming grant when list is too long.

Cl **64** *SC* **64.3.10.5** *P* **401** *L* **9** # **105**
Karasawa, Satoru OF Networks

Comment Type **E** *Comment Status* **D**
folowing is a typo.

SuggestedRemedy
folowing should be "following".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.6** *P* **401** *L* **24** # **106**
Karasawa, Satoru OF Networks

Comment Type **T** *Comment Status* **D**
In Figure 64-26, there is no state transition when the registered changes from true to false.

SuggestedRemedy
Add the following state transition.

When registered = false,
stop the gate_periodic_timer,
go to the WAIT state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
As the timer is armed at each SEND GATE, it is not possible to disarm it.
We can however condition the transition from WAIT to PERIODIC TRANSMISSION by (gate_periodic_timer_done * Registered)

Cl **64** *SC* **64.3.10.6** *P* **401** *L* **35** # **428**
GIRI K K Wipro Technologies

Comment Type **T** *Comment Status* **D**
DISCOVERY COMPLETE STATE

SuggestedRemedy
More clarity need to be mentioned on this.
This is used for sending the dummy gate to the transmit side.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
State diagram is a formal description without text

Cl **64** *SC* **64.3.10.6** *P* **401** *L* **37** # **356**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
"[start gate_periodic_timer]" should be added to "PERIODIC TRANSMISSION" state.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.6** *P* **403** *L* **1** # **984**

Maislos, Ariel — Passave

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

Watchdog funtionality missing in Gate processing

SuggestedRemedy

Add WD transiton from WAIT state in Fig 64-27

Add WD arming/reseting from INCOMING GRANT state in Fig 64-27

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.10.6** *P* **403** *L* **14** # **143**

Ken, Murakami — Mitsubishi Electric

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

In Figure 64-27, the validity check of grant is not correct.

SuggestedRemedy

Change the validity check as follow.

if (start[i] > local_time) * (length[i] > laser_on_time + IDLE_time + laser_off_time -->

if ((start[i] > local_time) * (timestamp - start[i] >= 1024) * (length[i] > laser_on_time + IDLE_time + laser_off_time + IPG))

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 719 for combined complete solution

Cl **64** *SC* **64.3.10.6** *P* **403** *L* **14** # **719**

Miyoshi, Hidekazu — SEI

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

I see two problems regarding the condition, "start[i] > local_time" in the INCOMING GRANT state in Figure 64-27.

1) Since both start[i] and local_time are unsigned 32 bit values, it would be impossible to determine whether start[i] is future or past compared to local_time. Thus ONU would always determine start[i] is a future time.

2) Accidentally, OLT may send a past grant-start. In such case, ONU will wait for the far away future grant.

SuggestedRemedy

In stead of just comparing start[i] and local_time, we should set a max difference time between start[i] and local_time. I propose 1 second as the max difference time (omp_time_out is 1 second, meaning OLT needs to send GATE at least every one second).

Complete suggested remedy is as follows.

Define a function, diff_time(a, b), which returns an absolute time difference between a and b.

Define a 32-bit unsigned constant, max_future_grant_time whose default value is 03-B9-AC-A0 (1 second).

Change the first condition of if statement in the INCOMING GRANT.

"Start[i] > local_time" -> "diff_time(a, b) < max_future_grant_time"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Function > was defined in 64.3.6 Shared Functions, so item 1) is covered.

Item 2) it is also covered upto 1/2 of maximal counter size - @ 32bits this is 2^31*16nsec = 34sec into the future.

Improving check to protect a specified amount of time into the future is possible by changing first part of second statement to (Start[i] - local_time < max_future_grant_time)

Cl **64** *SC* **64.3.10.6** *P* **404** *L* # **676**

Glen Kramer Teknovus

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

1. In transition from WAIT FOR GRANT WINDOW, the “currentGrant” is used without being initialized.

2. State GRANT DONE B2B should make sure that next grant is not contained entirely within the current grant.

3. TURN LASER ON state should make sure that the grant length is longer that IDLE_timer time.

SuggestedRemedy

A corrected state diagram will be submitted to the editor.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Kramer_p2mp_2_0503.pdf was reviewed
need to add client indication to state LASER ON

Cl **64** *SC* **64.3.10.6** *P* **404** *L* # **379**

Takaaki, Toyama Hitachi Communication

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

In Figure 64-28,expire timing of "IDLE_timer" isn't described in "TURN LASER ON" state. But in Figure 64-20,IDLE_timer's start timing is described with expire condition. Same description should be used in Figure 64-28.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 1057 for complete solution

Cl **64** *SC* **64.3.10.6** *P* **404** *L* **26** # **246**

Zheng, Caihua I2R

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

Figure 64-28
When there is a back to back grant, there is no need to turn off laser first and then turn on. Refer to D1.3 comment #339

SuggestedRemedy

Remove "laserControl<=false" in STOP TX and move it to GRANT DONE. For GRANT DONE B2B, no need to turn off laser.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 1057 for complete solution

Cl **64** *SC* **64.3.10.6** *P* **404** *L* **30** # **247**

Zheng, Caihua I2R

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

Figure 64-28
If the next grant has already ended or there is not enough time to transmit the next frame, it is treated as B2B also and will transit to START TX. This case should be taken care of.

SuggestedRemedy

This case should be taken care of by checking nextGrant.start+nextGrant.start>=localTime after STOP TX state. If true, remove nextGrant from grantList and go back to WAIT FOR GRANT WINDOW.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 1057 for exact solution

Cl **64** *SC* **64.3.10.6** *P* **404** *L* **30** # **144**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-28, the state transit condition from STOP TX to GRANT DONE is not correct.

SuggestedRemedy

Change the state transit conditions as follow.
currentGrant.start+currentGrant.length = localTime --> nextGrant.start-laser_off_time > localTime

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Should be nextGrant.start+currentGrant.length-laser_off_time > localTime

Cl **64** *SC* **64.3.10.6** *P* **404** *L* **30** # **145**

Ken, Murakami Mitsubishi Electric

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

In Figure 64-28, the grant overlap is checked after the laserControl becomes false. However, in the case of grant overlap, the laserControl should be kept true. For this purpose, the grant overlap should be checked before STOP TX state.

SuggestedRemedy

Following grant_window_timer_done, the grant overlap should be checked.
- If nextGrant.start-laser_off_time <= localTime --> To GRANT DONE B2B -> START TX (In this case, the laserControl never becomes false.)
- If nextGrant.start-laser_off_time > localTime --> To STOP TX -> GRANT DONE -> WAIT

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See 1057 for complete solution

Cl **64** *SC* **64.3.10.6** *P* **404** *L* **30** # **357**

Yoshimura, Minoru NEC

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

"nextGrant" used in Figure64-28 is not clear.

SuggestedRemedy

Add the definition of "nextGrant."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Editior would add definitions for missing variables and functions for accessing nexgrant

Cl **64** *SC* **64.3.2** *P* **375** *L* **51** # **233**

Zheng, Caihua I2R

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

The order of Discovery/Gate/Report here is different from the order later.

SuggestedRemedy

Change to the same order for easy reference.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3** *P* **375** *L* **50** # **980**

Maislos, Ariel Passave

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

Textual description in "Theory of operation" is not consistant with diagrams

SuggestedRemedy

Two possible options exist:
1) Rewrite section to describe "theory" and not be a step by step description of state machine behaviors
2) Update all text to reflect latest version of state diagrams

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Suggest using option 1 - describe "principle of operation" rather than step-by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **21** # **1053**

kottapalli, sreen Centillium Communicat

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

line 21: The states described in this paragraph do not match that one Figure 64-26 - e.g. there is no PERIODIC TRANSMISSION in Figure 64-26. The same is also the case with the last paragraph of this page and the states in Figure 64-28. There are many instances of inconsistencies between the Figure and the description of the state machines.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #980

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **27** # **788**

Bemmel, Vincent Alloptic

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

It is not clear how the Programming state and Activation state relate to each other

SuggestedRemedy

Clarify this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #980

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **4** # **248**

Zheng, Caihua I2R

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

Discovery Process doesn't send PDU through Gate Process, but rather directly through Control Mux.

SuggestedRemedy

Delete "or the Discovery Process".

"In this state, the Gate Process waits for the MA_CONTROL.request primitive from the client".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are many comments related to inconsistencies between state diagrams and the text. Text should be changed to reflect "theory of operation" rather than the step=by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **4** # **685**

Chan Kim ETRI

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

as shown in 64.3.4.4 Delay requirement, The OLT shall not grant nearer than 1024 time_quantas into the future. This means the gate process should look at the current timer in OLT when determining start time. so it is natural to place the start time calcuation in the gate process making the MAC CONTROL client only determine the length of the gate. (actually, the local_time is now in the control multiplexer for timestamping)

SuggestedRemedy

two options,

1. Either Clearly specify that the start time is determined in the gate process and the MA_CONTROL.request for the gate contains only the length of the gate and not the start time.

2. Or, make local_time which is now in control multiplxer a global variable so that the scheduler in the Mac control client can see it in determining the start time.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

A. making local_time a global variable does not mean it will be available in the client.

B. even if the client knows the local_time value, there is no guarantee that the GATE will not be queued behind some other frame resulting in transmition delay.

C. setting start time in the gate processing in OLT is not feasible because MPCP has no intelligence to schedule multiple grants in for the future. If it receives a request to send a GATE with four grants, it would always schedule them back to back.

Perhaps, it is better to allow the client to decide on start times, but require MPCP to generate a "LATE GRANT" indication if the start_time - timestamp < 1024.

Client may maintain its own clock so it would know how to calculate start times.

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **44** # **686**

Chan Kim ETRI

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

In March meeting comment resolution, it was agreed that sorting is performed when inserting gate in the queue. So the state name "SORT" is inadequate.

SuggestedRemedy

change "SORT" to "EXTRACT". (because it's extracting a grant from the already-sorted grant queue)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are many inconsistencies between the text description and the state diagram.

See #980 for general workaround.

Cl **64** *SC* **64.3.3.1** *P* **376** *L* **47** # **792**

Bemmel, Vincent Alloptic

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

line 47: "..it makes the laser on"
line 52: "..it makes laser off"

SuggestedRemedy

correct with:
line 47: "..it turns the laser on"
line 52: "..it turns the laser off"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **377** *L* **15** # **789**

Bemmel, Vincent Alloptic

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

It is not clear how the Window Setup state, Process Request state, and final registration state repalte to each other.

SuggestedRemedy

Clarify this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See #980

Cl **64** *SC* **64.3.3.2** *P* **377** *L* **24** # **249**

Zheng, Caihua I2R

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

Discovery Process doesn't send PDU through Gate Process, but rather directly through Control Mux.

SuggestedRemedy

Change to:
In this state, it issues the MA_CONTROL.request primitive to the Control Multiplexer to send the Discovery GATE message and starts the wait_for_window timer to detect the beginning of the discovery window.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
There are many comments related to inconsistencies between state diagrams and the text. Text should be changed to reflect "theory of operation" rather than the step=by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.2** *P* **377** *L* **25** # **687**

Chan Kim ETRI

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

It says that the window setup state process starts the wait_for_window timer after sending MA_CONTROL.request primitive to the gate process for sending discovery gate. But because the client cannot determine the start time (see my comment on page 64.3.3.1 376 line 4) the discovery process cannot yet know the actual gate start time and thus cannot start the wait_for_window timer.

SuggestedRemedy

There are three options,

1. Make the Gate process send a MA_CONTROL.indication to the discovery process to inform the start and end of the discovery window. This way, the window setup is governed wholy by the gate process. This needs to change the gate process but it's more natural.

2. make the local_time which is now in control multiplexer a global variable which can be seen in MAC control client.

3. For this state diagram, My Prefered suggestion is removing discovery window checking in the discovery process. For normal gates, the gate process at the OLT just posts the gates to the ONUs and does not check the arrival window. Applying analogy, there should not be such checking for discovery gate either. And there is no need to check the discovery window at the OLT side. changed state diagram for discovery process is attatched.("ckim_DiscProc.ppt")

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Text should be made harmonious with diagrams

See #980

Cl **64** *SC* **64.3.3.2** *P* **378** *L* **11** # **250**

Zheng, Caihua I2R

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

ONU's Discovery Process state diagram Figure 64-21 will never send a REGISTER_ACK with a Nack flag.

SuggestedRemedy

Either delete this part and update according in OLT state diagram,
OR include this situation in ONU state diagram

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are many comments related to inconsistencies between state diagrams and the text. Text should be changed to reflect "theory of operation" rather than the step=by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.2** *P* **378** *L* **16** # **688**

Chan Kim ETRI

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

sub-titles for deregistration from OLT and ONU are reversed

SuggestedRemedy

in line 16, - De-registration from ONU should read "De-registration from OLT"
in line 27, - De-registration from OLT should read "De-registration from ONU"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text should be made harmonious with diagrams

See #980

Cl **64** *SC* **64.3.3.2** *P* **378** *L* **16** # **185**

Gan, Xiaodan Institute of Microelectr

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

Based on the explaination of the paragraph followed, the device name ONU should be changed to OLT.

SuggestedRemedy

Replace ONU with OLT.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **64** *SC* **64.3.3.2** *P* **378** *L* **27** # **186**

Gan, Xiaodan — Institute of Microelectr

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

Based on the explaination of the paragraph followed, the device name OLT should be changed to ONU.

SuggestedRemedy

Replace OLT with ONU.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Cl **64** *SC* **64.3.3.2** *P* **378** *L* **42** # **790**

Bemmel, Vincent — Alloptic

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

It is not clear how the Window Setup state and Process state relate to each other

SuggestedRemedy

Clarify this

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text should be made harmonious with diagrams

See #980

Cl **64** *SC* **64.3.3.2** *P* **379** *L* # **574**

Martin Carroll — Lucent Technologies

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

The indicated clause of the spec mentions a wait_for_register_msg timer, but the state machines in 64.3.8 do not mention this timer. Clauses 64.3.3.2 and 64.3.8 should made harmonious. If the timer is retained, then its duration should be specified (similar to ONU_timer in 64.3.8.4).

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Text should be made harmonious with diagrams

See #980

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **16** # **690**

Chan Kim — ETRI

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

Does the ONU need to send REGISTER_ACK with failure flag when the REGISTER_REQ was denied by the OLT? Because the Registration was denied, the ONU was not even assigned an LLID to send this message with. Also, this doesn't comply with the OLT's discovery process in page 379 line 4 which doesn't check ONU's reply for OLT's denial in the same situation.

SuggestedRemedy

remove "and issues the OMP.request primitive indicating the REGISTER_ACK message with the failure flag to the OMP Multplexer."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **23** # **251**

Zheng, Caihua — I2R

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

This text is inconsistent with D1.4 state diagrams.

SuggestedRemedy

Update to reflect D1.4 state diagrams:
- Normal registration
The WAIT state is the initial state of the Process state. When the Discovery Process receives the MA_CONTROL.request primitive requesting the registration from the client, it transits to the REGISTERING state. At the beginning of the effective grant, it transits to the REGISTER_REQ state. In this state, it issues the OMP.request primitive indicating the REGISTER_REQ message to the Control Multiplexer. If it receives the OMP.indication primitive indicating the REGISTER message with the success flag, it transits to the REGISTERED state. In this state, it issues the MA_CONTROL.indication primitive to inform the client of the acceptance of registration and issues the OMP.request primitive indicating the REGISTER_ACK message with the success flag to the Control Multiplexer.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are many comments related to inconsistencies between state diagrams and the text. Text should be changed to reflect "theory of operation" rather than the step=by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **24** # **187**

Gan, Xiaodan — Institute of Microelectr

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

There is no description in sub-clause 64.3.3.2 and 64.3.8 explaining the definition and usage of wait_for_register_msg_timer.

SuggestedRemedy

Add corresponding description to the wait_for_register_msg_timer or remove it here.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

wait_for_register_msg_timer is not used in the Discovery state diagram. It should be removed.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **27** # **689**

Chan Kim — ETRI

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

It's not clear when to issue the REGISTER_ACK in ONU. Receiving REGISTER and sending REGISTER_ACK are separate events in time.

SuggestedRemedy

before "issues the OMP.request primitive indicating the REGISTER_ACK message with the success...", place "at the begining of next grant"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **35** # **252**

Zheng, Caihua — I2R

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

This text is inconsistent with D1.4 state diagrams.

SuggestedRemedy

Update to reflect D1.4 state diagrams:
- Rejection of requested registration
In the REGISTER_REQ state, if the Discovery Process receives the OMP.indication primitive indicating the REGISTER message with the nack flag, it transits to the DENIED state. In this state, it issues the MA_CONTROL.indication primitive to inform the client of the rejection of registration. Then, it transits to the WAIT state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

There are many comments related to inconsistencies between state diagrams and the text. Text should be changed to reflect "theory of operation" rather than the step=by-step walk through the state diagrams.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **39** # **129**

Ken, Murakami — Mitsubishi Electric

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

Unnecessary process is described.

SuggestedRemedy

Remove the description of "Expiration of wait_for_register_msg_timer" because wait_for_register_msg_timer is not used.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **39** # **253**

Zheng, Caihua — I2R

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

This text is inconsistent with D1.4 state diagrams. wait_for_register_msg_timer has been moved.

SuggestedRemedy

Delete Expiration of wait_for_register_msg_timer and the description. L39-L43

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **39** # **188**
Gan, Xiaodan Institute of Microelectr

Comment Type **E** *Comment Status* **D**
There is no description in sub-clause 64.3.3.2 and 64.3.8 explaining the wait_for_register_msg_timer and no TIMEOUT state in the figure 64-21.

SuggestedRemedy
Add corresponding description to the wait_for_register_msg_timer or remove it here.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

wait_for_register_msg_timer is not used in the Discovery state diagram. It should be removed.

Cl **64** *SC* **64.3.3.2** *P* **379** *L* **48** # **254**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
This text is inconsistent with D1.4 state diagrams.

SuggestedRemedy
Update to reflect D1.4 state diagrams:
- Re-registration
In the REGISTER_REQ state, when the Discovery Process receives the OMP.indication primitive indicating the REGISTER message with the re-registration flag, it transits to the REGISTERED state. The sequential behavior is same as the normal registration case.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.2** *P* **380** *L* **10** # **255**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
This text is inconsistent with D1.4 state diagrams. State DEREGISTER ACK is included in D1.4

SuggestedRemedy
Update to reflect D1.4 state diagrams:
- De-registration from ONU
...to the Control Multiplexer and issues the MA_CONTROL.indication primitive to inform the client of de-registration. When it receives the OMP.indication primitive indicating the REGISTER message with the deregister flag, it transits to the DEREGISTER ACK state. It issues the MA_CONTROL.indication primitive to inform the client of de-registration and OMP.request primitive indicating REGISTER_ACK message to Control Multiplexer. Then it transits to the WAIT state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **17** # **691**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
this explains the discovery message handshaking. How about merging the section with 64.3.3.2. by moving the contents in front part of the 64.3.3.2.

SuggestedRemedy
move the contents in front part of the 64.3.3.2. Following section numbers are adjusted.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

It can be easier to explain Normal Operation first and then to explain a more complicated Discovery/Registration process

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **20** # **793**
Bemmel, Vincent Alloptic

Comment Type **E** *Comment Status* **D**
"This message is called as Discovery GATE..."

SuggestedRemedy
"This message is called the Discovery GATE..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **22** # **1054**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
AGC settling time and CDR lock time should be replaced with the sync time.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **22** # **189**
Gan, Xiaodan Institute of Microelectr

Comment Type **E** *Comment Status* **D**
The AGC settling time and CDR lock time have been changed into syncronization time(Sync Time) in the MPCPDU of sub-clause 64.4.2, 64.4.5 and 64.4.6

SuggestedRemedy
Replace AGC settling time and CDR lock time with syncronization time(Sync Time).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Duplicate of #190

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **30** # **791**
Bemmel, Vincent Alloptic

Comment Type **E** *Comment Status* **D**
a better name for the 'pending grants' variable is 'maximum number of pending grants', since that is what the field represents: the maximum number of pending grants an ONU is configured to accomodate.

SuggestedRemedy
Replace 'pending grants' with 'maximum number of pending grants'. note: also correct this throughout document.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **380** *L* **30** # **190**
Gan, Xiaodan Institute of Microelectr

Comment Type **E** *Comment Status* **D**
The AGC settling time and CDR lock time have been changed into syncronization time(Sync Time) in the MPCPDU of sub-clause 64.4.2, 64.4.5 and 64.4.6

SuggestedRemedy
Replace AGC settling time and CDR lock time with syncronization time(Sync Time).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Duplicate of #189

Cl **64** *SC* **64.3.3.3** *P* **381** *L* **14** # **794**
Bemmel, Vincent Alloptic

Comment Type **T** *Comment Status* **D**
Figure 64-13: Use "Sync Time" instead of "ACG settling time + CDR lock time" as in figure 64-30 synchronize sec 64.3.3.3 to reflect this change.

SuggestedRemedy
Figure 64-13: Use "Sync Time" instead of "ACG settling time + CDR lock time" as in figure 64-30 - also synchronize sec 64.3.3.3 to reflect this change.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **381** *L* **25** # **721**

Miyoshi, Hidekazu SEI

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

In figure 64-13, LLID and DA values in MPCP messages does not indicate those clarified at the last meeting. Also AGC setting time and CDR lock time need to be changed to SYNC_TIME.

SuggestedRemedy

Change the texts as follows.

- GATE: LLID={mode=1, LLID=Broadcast_LLID}, DA=multicast MAC address
- REGISTER REQ: LLID={mode=0, LLID=Broadcast_LLID}, DA=multicast MAC address
- REGISTER: LLID={mode=1, LLID=Broadcast_LLID}, DA=unicast MAC address
- GATE: LLID={mode=0, LLID=LLIDn}, DA=multicast MAC address
- REGISTER ACK: LLID={mode=0, LLID=LLIDn}, DA=multicast MAC address

In addition, "AGC settling time" and "CDR lock time" in GATE and REGISTER messages need to be changed to "Sync time", and "echo of AGC settling time" and "echo of CDR lock time" in REGISTER ACK need to be changed to "echo of Sync time."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.3** *P* **381** *L* **5** # **191**

Gan, Xiaodan Institute of Microelectr

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

TThe AGC settling time and CDR lock time have been changed into syncronization time(Sync Time) in the MPCPDU of sub-clause 64.4.2, 64.4.5 and 64.4.6.

SuggestedRemedy

Replace AGC settling time and CDR lock time with syncronization time(Sync Time) in figure 64-13.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Duplicate of #189 and #190

Cl **64** *SC* **64.3.3.4** *P* **381** *L* **35** # **130**

Ken, Murakami Mitsubishi Electric

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

How to set the timestamp field in the ONU described in this subsection is not correct.

SuggestedRemedy

The ONU does not need to set the counter value minus the processing delay in the timestamp field. It just set the counter value in the timestamp field as described in 64.3.4.4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.4** *P* **381** *L* **35** # **236**

Zheng, Caihua I2R

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

L35 and L40

It is understood that the processing delay is absorbed in RTT. The term "minus the processing delay" is confusing.

SuggestedRemedy

Suggest either:

1. delete "minus the processing delay"
2. change to L35 "it maps the counter value in the timestamp field after processing delay" and L40 "the ONU sets the counter value in the timestamp field after processing delay"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

During last meeting the group has decided not to include the processing delay into RTT.

Cl **64** *SC* **64.3.3.4** *P* **381** *L* **36** # **692**

Chan Kim ETRI

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

It says "When the ONU transmits MPCPDUs, it maps the counter value minus the processing delay in the timestamp field" but ONU doesn't need to do that and this isn't what the baseline said. The processing delay in the transmit or receive path are incorporated into the RTT. So in the ONU, MPCP, or which ever references the MPCP timer doesn't have to worry about the processing delay. The same applies to line 39 too.

SuggestedRemedy

strike out the sentence - "When the ONU transmits MPCPDUs, it maps the counter value minus the processing delay in the timestamp field". In line 39, remove "minus the processing delay in the timestamp field".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Delay is neither subtracted by the ONU, nor is incorporated in the RTT. Rather, it is left to the OLT to ensure that there is enough time lag between ONU's receiving the message and generating its response (i.e., start_time - timestamp >= 1024).

Cl **64** *SC* **64.3.3.4** *P* **382** *L* **22** # **795**

Bemmel, Vincent Alloptic

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

Typo: ONU local time - t1

SuggestedRemedy

Replace "ONU local time - t1" with "ONU local time = t1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.4** *P* **382** *L* **23** # **183**

Yeo, Doreen IME

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

"ONU local time - t1" should be "ONU local time = t1"

SuggestedRemedy

Change "ONU local time - t1" to "ONU local time = t1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.4** *P* **382** *L* **23** # **152**

Ken, Murakami Mitsubishi Electric

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

Typo

SuggestedRemedy

Replace "ONU local time - t1" with "ONU local time = t1" in Figure 64-14.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.3.4** *P* **382** *L* **29** # **226**

Zheng, Caihua I2R

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

This is in reference to Figure 64-14. The notation for T0 and T1 is not consistent with the time notations in the diagram. They should be in small caps.

SuggestedRemedy

Change line 29 to

TWAIT = wait time at ONU = t1-t0

Change line 31 to
TRESPONSE = response time at OLT = t2-t0

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

The figure should use 't' for time values and 'T' for time intervals.

Cl **64** *SC* **64.3.3.5** *P* **383** *L* **21** # **423**

GIRI K K — Wipro Technologies

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

It is mentioned that after teh completion of discovery procedure, ONU will send a REPORT message that contains no queue report. But, just after the completion of discovery, ONU has no grants to transmit in the upstream and hence will not be able to send REPORT message.

SuggestedRemedy

After the completion of discovery, OLT also sends one GATE message with no grants. This Grant message can have minimum grant of 64 bytes just to enable ONU to transmit a dummy report.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The scheduling is done by the client. If MPCP is allowed to allocate grants on its own, client will not be able to properly schedule grants.

Additional discussion is needed.

Cl **64** *SC* **64.3.4.1** *P* **383** *L* **25** # **146**

Ken, Murakami — Mitsubishi Electric

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

For the PAUSE operation, some parameters should be exchanged. However, the MPCP messages cannot exchange these parameters.

SuggestedRemedy

Add the note that the PAUSE operation is not used in the point-to-multi-point environment, or the usage of PAUSE operation is optional.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Rewrite: "flow control may not.." to "the optional use of flow control may not.."

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **30** # **796**

Bemmel, Vincent — Alloptic

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

This section presents logic that really belongs in clause 65. It is also partially duplicating the logic described in section 65.1.2.4.2 and the parameters used in the algoritm are not defined in clause 64.

SuggestedRemedy

1. Rewrite the introduction as follows:
"By combining P2PE, suitable filtering rules at the ONU, and suitable forwarding/reflecting rules at the OLT, it is possible to emulate an efficient shared LAN (SE). Support for SE is optional, and requires an additional layer above the MAC, which is out of scope. The forwarding/reflecting rules at the ONU and OLT are specified in Sec 65.1.2.4.2."

2. Move lines 37-52 to sec 65.1.2.4.2 and replace logic described in that section.
<note: need to define mode bit and LLIDn>

"At the OLT, the rules for setting the mode and LLID parameters are as follows:
a) External Broadcast frame: (mode = 1, Broadcast_LLID)
b) External Unicast frame to known LLIDn: (mode = 0, LLIDn)
c) External Unicast frame to unknown LLID: (mode = 1, Broadcast_LLID)
d) Internal Unicast frame from LLIDn to LLIDm: (mode = 0, LLIDm)
e) Internal Broadcast frame from LLIDn: (mode = 1, LLIDn)
f) Internal Unknown frame from LLIDn: (mode = 1, LLIDn)
At the ONU, the rules for setting the mode and LLID parameters are as follows:
g) Upstream Frames: Send frame with the corresponding LLID and mode-bit set to zero
At the ONU, the rules for filtering incoming frames are as follows:
h) If mode-bit is zero and the LLID is this ONU- Accept frame
i) If mode-bit is one and the LLID is not this ONU, or the LLID is the broadcast LLID - Accept frame
j) All other frames are discarded"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Wording of rules should be made more appropriate for contect of clause 65.
As the RS is not aware of source/destination pairs for frames processed, it is not aware of what markings to use - it is only aware of markings based on incoming MAC interfaces.

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **31** # **693**
Chan Kim ETRI

Comment Type **E** *Comment Status* **D**
Ths title reads "Shared LAN Emulation" but what we're doing is not exactly shared LAN emulation. It's smarter than shared LAN emulation. For example, we reflect a frame from an ONU to anther ONU, only when we need to. In shared LAN, it's reflected anyway. And when we know the destination, we send the frame only to the destined ONU not to all ONUs like shared LAN. So the title is wrong. Also, in strict P2PE, to send a frame to all ONUs, we shoud duplicate the frame many times for each ONU. This is not what we do. So, it's not P2PE either.

SuggestedRemedy
Change the name to "Shared LAN Emulation or P2P Link Emulation". Of course, with appropriate bridge, we're doing something combined.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
The attempt was to explain how shared LAN emulation is added, taking P2P emulation as a given. Thus section title should be changed to "Optional Shared LAN Emulation"

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **34** # **212**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
(SE) does not seem to be the abbreviation for shared LAN emulation and it is not used anywhere else.

SuggestedRemedy
Suggest removing SE or rename it to something else.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Remove SE

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **38** # **153**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The definitions of "internal" and "external" are not clear.

SuggestedRemedy
Add the definitions.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
These sections to be moved to Clause 65 together with rewrite to remove these reference as in appropriate.
See 796

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **38** # **708**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
Broadcast_LLID is not defined in clause 64. Before using this constant, this must be defined.

SuggestedRemedy
Define Broadcast_LLID in this subclause or clause 65. Broadcast_LLID is 15 bits of all 1s (0x7FFF).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Define broadcast LLID in Clause 65

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **42** # **238**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The order of 6 cases is not very organised.

SuggestedRemedy
Exchange d) and e) for easy comparison of External and Internal cases.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 796

Cl **64** *SC* **64.3.4.2** *P* **383** *L* **54** # **229**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The specific behaviour of the filtering layer at the RS is not specified in #CrossRef# 65.1.3.2.2 as mentioned in the sentence but is actually in #CrossRef# 65.1.2.4.2

SuggestedRemedy
Amend the value of the cross reference in the sentence to " #CrossRef# 65.1.2.4.2 "

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.4.3** *P* **384** *L* **12** # **650**
Lynskey, Eric UNH-IOL

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

I believe that a recommendation is strong enough here, and that we don't need the shall.

SuggestedRemedy

Remove the 'shall'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.4.3** *P* **384** *L* **7** # **802**
Bemmel, Vincent Alloptic

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

This section attempts to discuss Shared LAN Emulation requirements in addition to P2PE + SCB. SE is optional and discussing the 2N+1 MAC 'requirement' here is only confusing.

SuggestedRemedy

Delete references to SE and additional MAC requirements and deal with that in clause 65.

Rename the subclause to: "Single Copy Broadcast support"

Replace the body of the section with the following text:

"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 recepients without multiple duplication for each ONU, Single Copy Broadcast (SCB) support is introduced.

In addition to the ONU-OLT MAC pairs required for P2PE, one more MAC at the OLT is marked as the SCB MAC. The SCB MAC handles all downstream broadcast traffic, but is never used in the upstream direction for client traffic.

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

Filtering and marking of frames for support of SCB is defined in #CrossRef# subclause 65.1.2.4.2"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See 650 for fine tuning

Cl **64** *SC* **64.3.4.3** *P* **384** *L* **7** # **673**
Glen Kramer Teknovus

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

“Each unicast MAC has a corresponding multicast MAC for broadcasting traffic to all ONUs except the one associated with that MAC.”

Second MAC is only used when ULSLE layer is implemented to do the selected broadcast. This is not mandatory, since only P2P emulation is also .1D compatible.

SuggestedRemedy

Change the above paragraph to
“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. This makes the minimum number of MACs in the OLT equal to N+1, where N is the number of ONUs. Optional higher layers may be implemented to perform selective broadcast 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 N+1.”

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 802 for exact solution

Cl **64** *SC* **64.3.4.4** *P* **384** *L* **20** # **651**
Lynskey, Eric UNH-IOL

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

I don't think we need two shalls in this paragraph. The second sentence, which states the 32 bit time variation requirement should be sufficient.

SuggestedRemedy

Change the sentence to "A compliant implementation needs to guarantee..." The second sentence keeps the 'shall'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.4.4** *P* **384** *L* **21** # **909**

Tom Mathey Independent

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

The text "A compliant implementation shall guarantee a constant delay through the MAC and PHY in order to maintain the correctness ..." is placing a conformance requirement on the PHY but not in the Clause which defines the PHY. The only place where PHY requirements are defined/specified is in the revelant PHY Clause. A requirement here in the protocol clause will be entirely missed by the PHY designers.

SuggestedRemedy

Move all references to "shall" to other revelant clause(s). It is ok in a protocol clause to refer to necessay characterists.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Compatibility/delay requiremetn should be echoed in Clause 65, editor would consult with clause editor for exact solution

Cl **64** *SC* **64.3.4.4** *P* **384** *L* **25** # **215**

Zheng, Caihua I2R

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

The text * The OLT shall not grant nearer than 1024 time_quantas into the future. The ONU shall process all messages in less than this period.* is not very clear on what the 1024 time_quantas is used for.

SuggestedRemedy

Suggest changing it to *.. into the future, this is to compensate for the ONU processing time when it receive a gate message. The ONU shall process all gate messages in less than this period.*

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Amend to "..into the future, in order to allow the ONU processing time when it receive a gate message"

Cl **64** *SC* **64.3.4.4** *P* **384** *L* **26** # **910**

Tom Mathey Independent

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

The text "Bit times are defined as a function of the PMD rate." is in direct conflict with base standard, 2002.

1.4.50 bit time (BT): The duration of one bit as transferred to and from the Media Access Control (MAC).

The bit time is the reciprocal of the bit rate. For example, for 100BASE-T the bit rate is 10-8 s or 10 ns.

SuggestedRemedy

Modify text, or refer to proper definition of "bit time"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Modify definition to reference section 1.4.50

Cl **64** *SC* **64.3.4.4** *P* **384** *L* **28** # **694**

Chan Kim ETRI

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

After send REGISTER, if the OLT sends the normal grant for REIGSTER_ACK too soon with newly assigned LLID, the normal gate will arrive at the ONU before the ONU receives and processes the REIGSTER and programs its input LLID filter. Considering constant delay restriction, every frame will experience more than 20 us in ONU receiver after passing the LLID filter in RS.

SuggestedRemedy

Specify that during the discovery procedure, the OLT should wait at least 20 us before sending the normal gate for REGISTER ACK. This should be taken care of at the MAC Control client but affects the compatibility so should be stated in the specification.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The text describes a maximal processing delay of 1024TQ which are approximatly 16us.

Paragraph shoud be rewritten as follows in order to cover Registration as well as Gating and satisfy comment :

"The OLT shall not grant nearer than 1024 time_quantas into the future. The ONU shall process all messages in less than this period. The OLT shall not issue more than one message every 1024 time_quantas to a single ONU."

Cl **64** *SC* **64.3.5** *P* **384** *L* **47** # **232**
Zheng, Caihua I2R

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

The description of the shared variable Master should be discarded because in the previous draft, it has been accepted and agreed upon that all references to the OLT should no longer be bridge port or Master but as OLT.

SuggestedRemedy

Remove the paragrah describing the shared variable Master

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See 979

Cl **64** *SC* **64.3.5** *P* **384** *L* **47** # **979**
Maislos, Ariel Passave

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

Variable Master is defined but not used

SuggestedRemedy

Remove definitions for variable Master and references from text

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.7** *P* **385** *L* **10** # **175**
Yeo, Doreen IME

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

OMP Parser / Multiplexer no longer exist in Figure 64-4.
Should Section 64.3.7 and sub-clause 64.3.7.1 (omp_timer) be removed? In the Discovery Processing ONU Regisration state diagram (Figure 64-21, page 394), the state "OMP_TIMEOUT" is trigger by "mpcp_timer_done" which I presumed is omp_timer_done.

SuggestedRemedy

Restore "omp_timer" in Control Parser block

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 983,984 for exact solution

Cl **64** *SC* **64.3.7** *P* **385** *L* **10** # **240**
Zheng, Caihua I2R

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

The clause 64.3.7 OMP Parser/ Multiplexer should be discarded as it no longer serves any purpose.

SuggestedRemedy

Suggest removing the sentence " 64.3.7 OMP Parser/Multiplexer "

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See 240

Cl **64** *SC* **64.3.7** *P* **385** *L* **10** # **982**
Maislos, Ariel Passave

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

OMP section not required

SuggestedRemedy

Remove section 64.3.7

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.7** *P* **385** *L* **11** # **695**
Chan Kim ETRI

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

OMP Parser/Multiplexer no longer exist and were merged into the Control Parser/Multiplexer at the last meeting. So the omp_timer action should be stated in the Control Parser.

SuggestedRemedy

Put a time-out of omp_timer condition into the "WAIT FOR RECEIVE" state and put resetting operation when supported opcode MAC Control frame is received.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Addition of timout states should be to 64.3.10.6 and 64.3.9.6
see #983, #984

Cl **64** *SC* **64.3.7.1** *P* **385** *L* **14** # **202**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
Has OMP_timer been renamed as MPCP_timer?

SuggestedRemedy
Changing all OMP_timer to MPCP_timer or vice versa.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
Rename to mpcp_timer

Cl **64** *SC* **64.3.7.1** *P* **385** *L* **16** # **131**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
There is no process to start the omp_timer.

SuggestedRemedy
In Figure 64-10, add the following process in PARSE TIMESTAMP state.
if !(opcode = GATE) + !(Flag = discovery gate)
[start omp_timer]
Also, move the description of omp_timer to 64.2.3.4.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 983, 984

Cl **64** *SC* **64.3.8** *P* **385** *L* **23** # **797**
Bemmel, Vincent Alloptic

Comment Type **T** *Comment Status* **D**
Lines 23-54 this section repeats section 64.3.3.x

SuggestedRemedy
Remove text of lines 23-54 and page 386 lines 1-2 and replace with:
"Discovery Processing Service Interfaces at the OLT and ONU are shown in Figure 64-15 and 64-16."

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Duplicate description shall be removed from 64.3.3, thus maintaining a single description in the text.

Cl **64** *SC* **64.3.8** *P* **385** *L* **32** # **378**
Takaaki, Toyama Hitachi Communication

Comment Type **E** *Comment Status* **D**
There is an error in writing. The word "tranmission" should be corrected to "transmission".

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **385** *L* **34** # **652**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Combine both sentences to remove one of the 'shalls'.

SuggestedRemedy
Change to "Each ONU shall wait a random amount of time before transmitting the Register_Req message that is shorter than the length of the discovery time window."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **385** *L* **43** # **484**
Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**
Spelling - "syncronization"

SuggestedRemedy
Replace "syncronization" with "synchronization"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **385** *L* **43** # **696**

Chan Kim ETRI

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

The description says OLT echoes the pending grants when it send down the REGISTER message to the ONU. But there was no such pending grants mentioned before in the subclause.

SuggestedRemedy

add text saying that the REGISTER_REQ contains the pending grants like "Register_Req message to the OLT which contains ONU's source address and number of maximum pending grants" in line 30.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **385** *L* **45** # **697**

Chan Kim ETRI

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

It would be nicer to clarify that standard gate should be sent down after certain time delay after the REGISTER.

SuggestedRemedy

after the "to transmit a Register_Ack", put "after certain delay to allow the ONU to program its LLID filter".

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Delay requirements are deat centrally at section 64.3.4.4
there is no need to repeat behaviour here.

Cl **64** *SC* **64.3.8** *P* **385** *L* **45** # **422**

GIRI K K Wipro Technologies

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

After sending the REGISTER message to ONU, OLT also sends a standard GATE message which allows ONU to transmit REGISTER_ACK. The REGISTER message contains the LLID of ONU in the payload and not in the preamble. But this GATE will be sent with ONUs LLID in preamble. Till then, ONUs RS will be accepting only broadcast LLID and now it should know the assigned LLID so that it can accept the standard GATE message also.
But since there is no minimum timing requirement between REGISTER and GATE message, these two messages may be transmitted back to back by OLT. ONU has to extract the LLID from REGISTER and then update the RS layer to accept the new LLID. If GATE arrives immediately (before RS is updated with new LLID), this GATE may be rejected by ONU RS and hence there will not be any GATE for REGISTER_ACK.

SuggestedRemedy

The RS layer at ONU can operate in promiscous mode till the discovery is complete. This means that, ONU will accept every LLID (apart from broadcast LLID) till it is registered. And the OMP layer will accept the broadcast LLID or assigned LLID from REGISTER message. Once ONU is regsitered and RS layer is informed about new LLID, it should start operating in non-promiscous mode.

Another remedy is fixing a minimum time between the REGISTER message and GATE message. This minimum time should be at least equal to the MPCP processing time at ONU.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 694

Cl **64** *SC* **64.3.8** *P* **385** *L* **54** # **709**

Miyoshi, Hidekazu SEI

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

The flag field of the REGISTER message indicates a value. Thus, the sentense, "...the REGISTER message contains two bits, Force registration and Deallocate (deregister)" is not correct. In addition, "Force registration" does not exist. This should be "Reregister."

SuggestedRemedy

Change the sentence something like below.

"the REGISTER message may indicate a value, Reregister or Deregister, that if either is specified will force the receiving ONU..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **385** *L* **54** # **102**
Karasawa, Satoru OF Networks

Comment Type **E** *Comment Status* **D**
"Force registration" should be "Reregistration".

SuggestedRemedy
Change the "Force registration" to "Reregistration".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **386** *L* # **350**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
Variable "transmitAllowed" and "laserControl" should be depicted in Figure64-16.
Variable "transmitAllowed" and "laserControl" should be defined in "64.3.8.2 Variables".

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See Comment 988 for removal of these variables

Cl **64** *SC* **64.3.8** *P* **386** *L* **1** # **710**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
The flag field of REGISTER_REQ message indicates a value. Thus, "...the REGISTER_REQ message ccontains the Deregister bit that signifies..." is not correct.

SuggestedRemedy
Change the sentence something like below.

"...the REGISTER_REQ message contains the Deregister value that signifies..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **386** *L* **23** # **193**
Gan, Xiaodan Institute of Microelectr

Comment Type **T** *Comment Status* **D**
There is no primitive MA_CONTROL.indication(discovery_gate) description in the sub-clause 64.3.8.5.

SuggestedRemedy
Add corresponding description to the primitive MA_CONTROL.indication(discovery_gate). In order to keep consistent with the format of the GATE message use MA_CONTROL.indication(gate, discovery) instead.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8** *P* **386** *L* **4** # **192**
Gan, Xiaodan Institute of Microelectr

Comment Type **T** *Comment Status* **D**
There is no primitive MA_CONTROL.request(discovery_gate) description in the sub-clause 64.3.8.5.

SuggestedRemedy
Add corresponding description to the primitive MA_CONTROL.request(discovery_gate). In order to keep consistent with the format of the GATE message use MA_CONTROL.request(gate, discovery) instead.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.1** *P* **386** *L* **54** # **132**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The default value of laser_on_time is not correct.

SuggestedRemedy
Change the defalut value as 00-00-00-20 (512 nano seconds)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.1** *P* **387** *L* **6** # **133**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The default value of laser_off_time is not correct.

SuggestedRemedy
Change the defalut value as 00-00-00-20 (512 nano seconds).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.2** *P* **387** *L* **29** # **138**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The definition of IDLE_time is not indicated.

SuggestedRemedy
Add the description of IDLE_Time as follows.
This variable holds the time required to stabilize the receiver at the OLT. It counts in time_quanta units from the point where transmission output is stable to the point where it is decodable. During the IDLE_time only IDLE patterns can be transmitted. This value is set following receipt of Discovery GATE, as it is broadcast by the OLT. This value is indicated in Sync time field.
TYPE: 32 bit unsigned
DEFAULT VALUE: 00-00-00-10 (256 nano seconds)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.4** *P* **387** *L* **49** # **198**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
The description of the wait_for_window_timer*s value is not very clear.

SuggestedRemedy
adding *such that the grant start time of all the ONUs are approximately the same. The value is a function that is inversely proportional to the distance of the OLT.* after ** passed from the client.*

Proposed Response *Response Status* **W**
PROPOSED REJECT.
The proposed clarification is not clear

Cl **64** *SC* **64.3.8.4** *P* **388** *L* **12** # **154**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The description of the random value does not correspond to "max_delay" in Figure 64-20.

SuggestedRemedy
Change the description of the random value as follow.
A random value less than the net discovery window size less the REGISTER_REQ MPCPDU frame size less the idle period and laser turn on and off delays less the preamble size less the IPG size.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.5** *P* **388** *L* **28** # **698**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D**
Message definitions are still different from the MPCP message definition. But In Fig.64-15 and 64-16, the messages coincide with actual message delivered between OLT and ONUs.

SuggestedRemedy
By defining the processing messages as exactly same to the actually delivered messages, we are making the discovery process almost a null process which just passes the messages between client and Parser/Mux. I suggest to do that leaving most tasks to the client.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Suggested remedy lacks detail to allow proper response

Cl **64** *SC* **64.3.8.5** *P* **388** *L* **37** # **986**
Maislos, Ariel Passave

Comment Type **T** *Comment Status* **D**
OMP.request should be changed to TransmitFrame

SuggestedRemedy
fix at page.line: 376.7,13,16,22; 377.45; 378.1,8,36; 379.23,28,36; 380.8; 383.4; 383.11,13,21; 390.16; 392.12,42; 394.15,40,48; 395.27; 397.15; 398.15; 401.12,35,36

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.5** *P* **388** *L* **37** # **985**

Maislos, Ariel Passave

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

OMP.indications should be changed to function-activation

SuggestedRemedy

fix at page.line: 376.33,34; 377.33,47; 378.29,50; 379.9,14,25,33,47,53; 382.46,47; 386.17,35; 391.19; 392.22,36; 393.9; 394.21,23,31; 395.27; 396.46; 398.15; 401.15; 403.9

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.5** *P* **388** *L* **54** # **235**

Zheng, Caihua I2R

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

The phrase " (i.e. Master = true) " should be removed from the sentence.
The usage of the shared variable Master should be replaced by OLT.

In a similar matter, the contents of page 389 line 18-23 should be removed too as it refers to conditions when Master is true or false

SuggestedRemedy

Perhaps we can change that phrase to " (i.e. OLT = true) ". Or we could just completely omit it. The same applies to the paragrah in pg 389 line 18-23.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 979

Cl **64** *SC* **64.3.8.5** *P* **389** *L* **1** # **699**

Chan Kim ETRI

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

start time should be determined by the gate process where MPCP timer is close at hand. Or, start time should be determined by the Control Multiplexer. It is closely related to the MPCP timer and start time should be in a bounded distance apart from the current MPCP timer.

SuggestedRemedy

two solutions :
1. For gate message, remove start_time from the MA_CONTROL.request paramteres for gate message.
2. Or, make the local time a global variable not local to control multiplexer as it is now. This way, we can put start_time intact in the message.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
I understand this as a problem in exposing the localTime variable, resulting in inability by the client to generate the correct start_time.
Proposed solution 1 does not work, as it is the clients reponsibility to perform the scheduling, and correct usage of the start_time varibale is a fundamental method for allocating bandwith correctly.
Preferred method for solution is based on proposal 2 - meaning exporting the value of the localTime variable to pervasive management.

Cl **64** *SC* **64.3.8.6** *P* **390** *L* # **1042**

kottapalli, sreen Centillium Communicat

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

What is length field ?

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See pg. 389 line 14

Cl **64** *SC* **64.3.8.6** *P* **390** *L* **11** # **194**
Gan, Xiaodan Institute of Microelectr

Comment Type **E** *Comment Status* **D**
In reference to the figure 64-17, the Discovery Process of the OLT in the IDLE state waits for the MA_CONTROL.request primitive which should contain the gate discovery information. The opcode register in the MA_CONTROL.request is not consistent with the GATE message.

SuggestedRemedy
Change the MA_CONTROL.request(DA, register, start_time,...) primitive to MA_CONTROL.request(DA, gate, discovery, start_time,...).

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Cl **64** *SC* **64.3.8.6** *P* **390** *L* **15** # **707**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
Since OLT can send an unicast discovery, the second argument of OMP.request(,,,own_id,,,) in the SEND DISCOVERY WINDOW state is not appropriate.

This comment has been accepted (comment #945 submitted at the Dallas meeting).

SuggestedRemedy
Change the second argument of the OMP.request message as follows.

OMP.request(grant, own_id,,,) -> OMP.request(grant, DA,,,)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **390** *L* **16** # **429**
GIRI K K Wipro Technologies

Comment Type **T** *Comment Status* **D**
"OMP.request(grant, own_id, start_time,grant_length, discoveryFlag <= true)" why is this request required at this stage as there is no signal going to the ONU side during Discovery Processing OLT Window Setup State.

SuggestedRemedy
remove the state SEND DISCOVERY WINDOW completely.

Proposed Response *Response Status* **W**
PROPOSED REJECT.
A Gate is currently generatead at the SEND DISCOVERY WINDOW state.

Cl **64** *SC* **64.3.8.6** *P* **391** *L* **43** # **134**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The process to deregister the LLID from RS in the OLT is not indicated.

SuggestedRemedy
In Figure 64-19, add the deregistration process of LLID from RS at the end of DEREGISTER state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
see 675

Cl **64** *SC* **64.3.8.6** *P* **392** *L* # **1043**
kottapalli, sreen Centillium Communicat

Comment Type **E** *Comment Status* **D**
Define P2PERS: link_layer_id

SuggestedRemedy
Please add comment

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Interface to set variable in P2P emulaiton RS would be added to 64.3.8.2

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **16** # **353**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
The condition to move from "REGISTER" to "WAIT FOR REGISTER_ACK" should be "(registerStatus = Ack) + (registerStatus = reregister)" in Figure 64-19.

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **18** # **700**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D**
sending normal gate for REGISTER_ACK is omitted.

SuggestedRemedy
put a state where OMP.request for normal gate transmission is sent before "WAIT FOR REGISTER_ACK" state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
A flag can be raised by the Gate processing block when a gate was issued to an LLID. This way based on this flag, it is possible to condition the transition from a new ESTABLISH ID state to the WAIT FOR REGISTER_ACK state. This would ensure that the ONU_timer is armed only following the transmission of a GATE.

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **18** # **711**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
In figure 64-19, ONU_timer is started in the WAIT FOR REGISTER_ACK state, but no stop operation of the timer is executed.

SuggestedRemedy
Add the stop ONU_timer operation in the COMPLETE DISCOVERY state.
Alternatively, since the COMPLETE DISCOVERY state can be eliminated (refer to my other comment), the stop ONU_timer operation may be added in the REGISTERED state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **19** # **352**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
"link_layer_id" used in Figure64-19 is not clear.

SuggestedRemedy
Add the definition of "link_layer_id".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 1043

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **20** # **136**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
The OLT starts the ONU_timer at the WAIT FOR REGISTER_ACK state to monitor the receiption of REGISTER ACK message. The grant should be issued to receive the REGISTER ACK message from the ONU. Therefore, the MAC Control Client should issue the grant for the REGISTER ACK follwoing the REGISTER message to avoid the expiration of ONU_timer. Here, the ONU processing delay of REGISTER message should be considered. If the grant is issued immediately after the REGISTER message, the grant reaches the ONU before the ONU registers the LLID to RS.

SuggestedRemedy
Add the following assumption.
The MAC Control Client issues the grant following the REGISTER message, taking the ONU processing delay of REGISTER message into consideration.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 700

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **23** # **718**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
According to Figure 64-21, ONU never sends the REGISTER_ACK message with NACK. Thus a particular state in figure 64-19 and an entry of table 64-6 are not necessary. We can simplify them.

SuggestedRemedy
Eliminate the COMPLETE DISCOVERY state shown in Figure 64-19, and also change the meaning of the NACK entry in Table 64-6 to Reserved.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Carefull consideration must be made on this issue.
Under which condition an ONU can assume it shall not register with the OLT.
1> as supported at the OLT (but not yet at the ONU) and ONU may decide at the final stage of registration to abort - for example as a result of seeing the OLT does not support the ONU's feature set requirements, or the ONU can not meet the OLT's
2> only after completing registration can the ONU deregister

option 1 is half implemented as expained by the comment, and is more robust from a protocol perspective. Possible solution is splitting state REGISTERED in figure 64-21 to two sub states, for incoming register, and for issuing of regiter_req based on client indication.
See 245

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **40** # **701**
Chan Kim ETRI

Comment Type **T** *Comment Status* **D**
when ONU responded with REGISTER_ACK with fail flag, the OLT doesn't need to send REGISTER with fail flag again.

SuggestedRemedy
Either
1. in the "false" brand from the "COMPLETE DISCOVERY" state, add a variable "ONU_responded_with_fail" and around the OMP.request in the "DEREGISTER" state, place if (ONU_responded_with_fail) { }.
2. Or, use another box for "DEREGISTER" to differentiate ONU fail case from the time-out case.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Option 2 is preferable:
New state DISCOVERY NACK would contain action
MA_CONTROL.indication(register_ack, status ? deregister)
and undonditional transition to IDLE state

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **6** # **354**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
Variavle "registerd" should not be used in OLT.

SuggestedRemedy
Remove "registered <- false" from "IDLE" state in Figure64-19.
And, specify in 64.3.8.2 that variable "registered" is used only for ONU.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **392** *L* **9** # **351**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
MA_CONTROL.request(DA,register,start_time,grant_length,length) is defigned in 64.3.8.5. But MA_CONTROL.request(DA,register,ID,registerStatus) used in Figure 64-19 differs from this definition in 64.3.8.5.

SuggestedRemedy
Modify the definition of "MA_CONTROL.request" in 64.3.8.5.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **393** *L* # **1044**
kottapalli, sreen Centillium Communicat

Comment Type **E** *Comment Status* **D**
State transition to two different state is happening with same condition

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
Editor assumes transitions from WAIT FOR WINDOW UNICAST to TURN LASER ON and WAIT FOR WINDOW to RANDOM WAIT:
in which case transitions are correect as both use same timer.

Cl **64** *SC* **64.3.8.6** *P* **393** *L* **1** # **988**
Maislos, Ariel Passave

Comment Type **TR** *Comment Status* **D**
Figure 64-20 and Figure 64-28 are redundant.
For historical reasons laser activation was added to Discovery processing in addition to Gate processing. This duplication of functionality is not required as all functions can be contained inside Figure 64-28

SuggestedRemedy
Incorporate random wait states into Figure 64-28.
Remove Figure 64-20.
InsideDiscovery flag signals information from Gate Processing to Discovery Processing.
This also solves problem with comment 336 on Draft 1.2 that remained open as Discovery can now also use Programming states in figure 64-27

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **393** *L* **14** # **137**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
In Figure 64-20, the validity check of DA is not indicated.

SuggestedRemedy
If is_unicast(DA)=true, the ONU should check whether the DA is same as this ONU's unicast MAC address or not.
- if DA=ONU's MAC address --> To WAIT FOR WINDOW UNICAST state
- else --> To WAIT state

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **393** *L* **25** # **155**
Ken, Murakami Mitsubishi Electric

Comment Type **T** *Comment Status* **D**
"IDLE_time" is not defined.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 138

Cl **64** *SC* **64.3.8.6** *P* **393** *L* **9** # **196**
Gan, Xiaodan Institute of Microelectr

Comment Type **E** *Comment Status* **D**
In reference to the figure 64-20, the Discovery Process of ONU in WAIT state waits for the gate discovery message. The opcode register in OMP.indication(register, DA, start_time, grant_length, ...) is not consistent with the GATE message.

SuggestedRemedy
Change OMP.indication(register, DA, start_time, grant_length, ...) to OMP.indication(DA, SA, opcode=GATE, discovery, start_time, grant_length, ...).

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* # **675**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
LLID should be set by the client through the management interface.

SuggestedRemedy
Remove “P2PERS:link_layer_id = ID” from REGISTERED state.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* # **674**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
OMP TIMEOUT is an orphan state. Timer “mpcp_timer_done” is not defined and is not set in any state diagram.

SuggestedRemedy
Remove state “OMP TIMEOUT”. Under new operation ONU responds to every discovery gate until it registeres. Also see the comment 286 submitted against D1.3

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See 984,983 for generation of mpcp_timer_done variable

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **19** # **421**
GIRI K K Wipro Technologies

Comment Type **T** *Comment Status* **D**
In the Discovery Processing ONU Registration State diagram, after state REGISTER_REQ, the state transitions to RETRY state. In draft 1.3, there was a timer wait_for_register_msg_timer_done which, if expires, ONU considers that the previous Register_req has sufffered collisions and then goes for RETRY. However, in Draft 1.414, this timer is not mentioned and in the state machine it appears that RETRY is done in the next discovery window without checking for any timeout.

SuggestedRemedy
Start a timer wait_for_regsiter_msg_timer at REGISTER_REQ state (line 14) and then instead of insideDiscoveryWindow = true in line-18, change to (insideDiscoveryWindow=true AND wait_for_register_msg_timer_done) before going to RETRY state

Proposed Response *Response Status* **W**
PROPOSED REJECT.
ONU would should retry at every discovery window if possible.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **28** # **355**
Yoshimura, Minoru NEC

Comment Type **E** *Comment Status* **D**
MA_CONTROL.request() in "REGISTERED" state should be TransmitFrame().

SuggestedRemedy
Correct according to comment.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **37** # **139**
Ken, Murakami Mitsubishi Electric

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

In Figure 64-21, the state transit condition from REGISTERED to REMOTE DEREGISTER is not correct.

SuggestedRemedy

This state transit condition should be Opcode specific function activation (Opcode = REGISTER).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **37** # **856**
GIRI K K Wipro Technologies

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

In figure 64-21, for the REMOTE DEREGISTRATION STATE the condition check is MA_CONTROL.indication. But there is no indication send at this point of state

SuggestedRemedy

"MA_CONTROL.indication" should be changed to "MA_CONTROL.request".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Intent was not to receive indication from client as this is not possible (indication is sent to client). Intent was to signal arrival of protocol frame using "indication" nomenclature.
Change "indication" to function call activation based on commments #985

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **41** # **135**
Ken, Murakami Mitsubishi Electric

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

The process to deregister the LLID from RS in the ONU is not indicated.

SuggestedRemedy

In Figure 64-21, add the deregistration process of LLID from RS at the following places;
- at the end of REMOTE DEREGISTER state,
- at the end of DEREGISTER ACK state, and
- at the end of OMP_TIMEOUT state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 675 for allocation/deallocation by client

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **46** # **713**
Miyoshi, Hidekazu SEI

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

According to Figure 64-19 and Figure 64-21, the sequence of the ONU local deregister is as follows.
1) ONU sends the REGISTER_REQ message with Deregister: 2) OLT sends the REGISTER message with Deregister, 3) ONU sends the REGISTER_ACK message with success. However, the sequence 3) is not necessary, because in Figure 64-19 OLT transits the IDLE state after sending the REGISTER message with Deregister. In this sense, sending the last message, REGISTER_ACK, by ONU has no meaning. Deleting this REGISTER_ACK makes the deregistration process much simpler.

SuggestedRemedy

Get rid of OMP.request(,,,opcode<=REGISTER_ACK,,,) in the DEREGISTER ACK state in Figure 64-21.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove DEREGISTER ACK STATE
Transition from LOCAL DEREGISTER to REGISTERED using UCT
incoming deregister in REGISTER would transition through REMO DEREGISTER back to IDLE.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **49** # **857**
GIRI K K Wipro Technologies

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

In figure 64-21, in the DEREGISTRATION ACK STATE, OMP.request signal is send with flag <= success but this bit of flag octets was there in draft 1.3 of 802.3ah and has been removed in draft 1.414 of 802.3ah.

SuggestedRemedy

The flag should be ACK instead of success.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **6** # **712**

Miyoshi, Hidekazu SEI

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

I think "mpcp_timer_done" in figure 64-21 is not correct.

SuggestedRemedy

Change "mpcp_timer_done" to "omp_timer_done."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Missing also generation of signal at Report and Gate processing blocks.
As OMP block was eliminated, suggest maining use of mpcp_timer_done, instead of omp_timer_done

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **9** # **244**

Zheng, Caihua I2R

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

Figure 64-21
Suggest still group Discovery/Gate/Report together in an OMP block and standardize interface between OMP and Control Parser/Multiplexer as OMP.indication and OMP.request to distinguish from MA_CONTROL.indication/request which come from MA_CONTROL Client.

SuggestedRemedy

Change MA_CONTROL.indication/request(opcode=...) to OMP.indication/request(opcode=...)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Alternative solution is to use:
TransmitFrame as outbound interface
opcode dependent function activation as inbound interface

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **9** # **245**

Zheng, Caihua I2R

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

Figure 64-21
The case that ONU rejects OLT's REGISTER in REGISTER_ACK with flag=Nack is not included here but such case is considered at OLT side, e.g.
1. Figure 64-19 P392 state COMPLETE DISCOVERY false transition to DEREGISTER
2. P378 L11-14 REGISTER_ACK with failure flag

SuggestedRemedy

Split REGISTERED state into 2 states. After receiving a REGISTER, send indication to MA_CONTROL Client first. Wait for Client's request first before sending REGISTER_ACK.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See 718

Cl **64** *SC* **64.3.8.6** *P* **394** *L* **9** # **243**

Zheng, Caihua I2R

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

Figure 64-21
Comment to rename MA_CONTROL.indication(register_ack) to MA_CONTROL.indication(register) as been accepted and updated in Figure 64-16 but not updated here.

SuggestedRemedy

Rename ALL MA_CONTROL.indication(register_ack) to MA_CONTROL.indication(register) in this state diagram

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.8.6** *P* **398** *L* **8** # **197**

Gan, Xiaodan Institute of Microelectr

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

The Gate Process of ONU should check the status of the variable registered which is set by the Discovery Process. It is to ensure that the ONU will not enter the transmission state although there are some pending grants in the grantList after it is deregistered.

SuggestedRemedy

Suggest to add the variable registered to the Gate Processing Service Interface as input signal. The Gate Process needs to flush the pending grants in the grantList if the variable registered is set to false.

Add the description to the sub-clause 64.3.10 accordingly and modify the figure 64-28.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Gating should be performed (.. * registered) in order to cleanly deregister

Cl **64** *SC* **64.3.9** *P* **395** *L* **5** # **798**

Bemmel, Vincent Alloptic

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

"Typically status reports are used to signal bandwidth needs." is not a correct statement. A more typical use is the periodic reports for the OLT watchdog timer.

SuggestedRemedy

Replace with "Status reports may be used to signal bandwidth needs."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

"Status reports are used to signal bandwisth needs as well as for arming of the OLT watchdog timer."

Cl **64** *SC* **64.3.9** *P* **395** *L* **5** # **714**

Miyoshi, Hidekazu SEI

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

The sentence, "Queue reports shall be specified in 2-byte multiples", is too vague for describing the characteristic of REPORT.

SuggestedRemedy

I see two options.

a) combine the previous sentence and this one.

Typically status reports are used to signal bandwidth needs in 16 bit time increments.

b) Delete this sentence, and specify a more detail definition of REPORT in 64.4.3 REPORT description.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Option b is preferable.

Detailed definition is specified in 64.4.3.d, presented text is confusing and not required.

Cl **64** *SC* **64.3.9** *P* **395** *L* **8** # **799**

Bemmel, Vincent Alloptic

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

"Queue reports shall be generated periodically,...". The 'queue' aspect of a report is optional so this is misleading.

SuggestedRemedy

Replace with "Reports shall be generated periodically,..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.9.5** *P* **396** *L* **6** # **800**

Bemmel, Vincent — Alloptic

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

"This primitive may be called multiple times in order to reflect the time varying aspect of the network". Is this as opposed to one time?

Same for line 18.

SuggestedRemedy

"This primitive may be called at variable intervals in order to reflect the time varying aspect of the network."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Intent was to signal possibility to issue multiple reports independently of granting process.

"This primitive may be called at variable intervals, independently of the granting process, in order to reflect the time varying aspect of the network."

Cl **64** *SC* **64.3.9.6** *P* **396** *L* **33** # **983**

Maislos, Ariel — Passave

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

Watchdog funtionality missing in Report processing

SuggestedRemedy

Add WD transiton from WAIT state in Fig 64-23
Add WD arming/reseting from RECEIVE REPORT state in Fig 64-23

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.3.9.6** *P* **397** *L* **1** # **104**

Karasawa, Satoru — OF Networks

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

In Figure 64-24, there is no state transition when the registered changes from true to false.

SuggestedRemedy

Add the following state transition.

When registered = false,
stop the report_periodic_timer,
go to the WAIT state.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add qualification of "*Registered" to all transitions out of WAIT state.

Cl **64** *SC* **64.4.1** *P* **364** *L* **32** # **99300**

Glen Kramer — Teknovus

Comment Type **TR** *Comment Status* **D** *D1.3 #291*

DISCOVERY_GATE and GATE messages are processed in different functional blocks within Multi-Point MAC Control. Because of desire to share the same opcode we have more complicated structure:

1. AGC and CDR fields are present only in DISCOVERY_GATE. ONU should read NumberOfGrants value to calculate the offset to access AGC and CDR fields
2. OMP Parser should look at opcode and then at Discovery_gate flag to determine where to forward the frame (see Figure 64-14)

SuggestedRemedy

Make a DISCOVERY_GATE a separate message type (opcode = 00-07)
Make AGC and CDR fields present only in DISCOVERY_GATE message, but not in regular GATE.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Control Parser figure 64-10 in Draft 1.414 does not contain the mentioned problem.
See #703 for 1)
See #383 for complementary solution to 2)

Cl **64** *SC* **64.4.1** *P* **404** *L* **50** # **987**
Maislos, Ariel Passave

Comment Type **E** *Comment Status* **D**
Define MPCPDU before first use

SuggestedRemedy
change "MPCPDU are basic IEEE 802.3 frames" to "MPCP PDU (MPCPDU) are basic IEEE 802.3 frames"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.4.1** *P* **404** *L* **52** # **292**
Hirth, Ryan Terawave Communica

Comment Type **TR** *Comment Status* **D**
MPCPDU's LLIDs are not defined. Each message should clearly state as to if it is to use a broadcast LLID, or Unicast LLID.

SuggestedRemedy
LLID for Gate : Unicast
LLID for Discovery Gate : Broadcast
LLID for Register Request : Broadcast
LLID for Register : Broadcast
LLID for Register Acknowledge : Broadcast
LLID for Report : Unicast

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Editor would add appropriate text to state type of LLID used for each message.
LLID for Register Ack - Unicast
See 721

Cl **64** *SC* **64.4.1** *P* **404** *L* **54** # **286**
Hirth, Ryan Terawave Communica

Comment Type **T** *Comment Status* **D**
Please state explicitly which MPCP messages use the multicast DA and which use the unicast DA. Not all messages define this clearly.

SuggestedRemedy
The REGISTER message shall use a unicast MAC Address, and that all other MPCP messages shall use the multicast MAC Address.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Editor would add specific text to this effect

Cl **64** *SC* **64.4.2** *P* **407** *L* **37** # **717**
Miyoshi, Hidekazu SEI

Comment Type **T** *Comment Status* **D**
If I am not mistaken, the formula, Grant #n Start Time < Grant #n+1 Start time, is true only within a gate message. In other words, the formula is not always true when two or more gate messages are involved. I think this is our conclusion at the Dallas meeting. But it is difficult to understand the conclusion only from the text in the draft.

SuggestedRemedy
Add a note explaining the formula is true only within a gate message.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64.4.2** *P* **407** *L* **41** # **703**
Chan Kim ETRI

Comment Type **TR** *Comment Status* **D**
Currently the Sync Time field is used only for discovery gate, but is not there for normal gate. Why don't we leave it there for normal gate anyway?

SuggestedRemedy
remove "This field is present only when the gate is a discovery gate ~ "

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
As field is ignored on receive when not used, there is no benefit and no loss from allowing field to remain in all gate messages.

Cl **64** *SC* **64.4.2** *P* **407** *L* **6** # **720**

Miyoshi, Hidekazu SEI

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

Since before receiving REGISTER_REQ, OLT does not know the values of pending grants of ONUs, multiple grants in DISCOVERY GATE does not make sense.

SuggestedRemedy

Introduce a default value of pending grants. I think one would be a reasonable value as a default. OLT uses the default value in DISCOVERY GATE, and uses a new value informed by REGISTER_REQ in NORMAL GATE.

This remedy does not limit the value of pending grants to one at any time of discovery process. Since the value can be managed as a MIB variable defined in a higher layer, the default value could be changed. This will be an implementation matter.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change b) to read

.. The Discovery flag field indicates that the signaled grants would be used for the discovery process, in which case a single grant would be issue in the gate message.

Cl **64** *SC* **64.4.2** *P* **408** *L* **16** # **858**

Gaglianello, Bob Lucent Technologies

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

Efficient processing of Gate MPCPDUs is essential for EPON system implementations. The single octet "Flags field" causes all succeeding fields to be misaligned for 16-bit wide logic. Increasing the width of the "Flags field" by a single octet would solve this and not impact 8-bit wide implementations. This would only reduce the amount of Pad/Reserved space by a single octet, from 13-39 to 12-38 octets.

SuggestedRemedy

I propose increasing the size of the "Flags field" in the GATE MPCPDU to 16 bits. Change the "1" on line 16 to a "2", and change the Pad/Reserved "Octets"(line 37) from "13-39" to "12-38". Also, line 1 on page 406 would changed from "8 bit field" to "16 bit field".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Traditionally all Ethernet protocols are byte based and padding is discouraged. Ample processing time is provided for this specific reason allowing a variety of implementations.

Cl **64** *SC* **64.4.3** *P* **408** *L* **53** # **715**

Miyoshi, Hidekazu SEI

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

I think "...the number of bytes they request per 802.1Q priority queue" is not proper expression, since the report is counted in 16 bit time increments. In addition, I don't think we need to specify a particular unit of queue report. A more generic term would work here.

SuggestedRemedy

Change the sentence something as below.

"In the REPORT messages ONUs indicate the upstream bandwidth needs they request per 802.1Q priority queue."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **64.4.3** *P* **409** *L* **36** # **716**

Miyoshi, Hidekazu SEI

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

The explanation of queue #n report is not clear. Especially "the granularity of Queue #n report is 2 octets" is too vague. I think at least the text should describe 2 octets of what.

SuggestedRemedy

Change the sentence at "d) Queue #n Report" as follows.

d) Queue #n Report. This is an unsigned 16 bit value signifying the bandwidth requirement of queue #n. The granularity of the report is 16 bit time. This field is present only when the corresponding flag in the Report bitmap is set.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

d) Queue #n Report. This is an unsigned 16 bit value signifying the bandwidth requirement of queue #n. The value represents 2 octets multiples. This field is present only when the corresponding flag in the Report bitmap is set.

Cl **64** *SC* **64.4.4** *P* **410-411** *L* *#* **594**

Martin Carroll Lucent Technologies

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

MPCP, as currently defined, does not provide a specified way for the OLT to determine the laser on and off times of an ONU. If the OLT knew those times, the OLT could do a better job of scheduling the upstream. Here is one example (there are others). Consider the case in which the OLT issues a grant to ONU A, followed by a grant to ONU B. If the OLT knew A's laser off time and B's laser on time, then the OLT could overlap these two grants by the minimum of laser_off(A) and laser_on(B). Overlapping the grants in this manner results in more efficient bandwidth utilization. Without any knowledge of laser_off(A) and laser_on(B), the OLT can overlap the grants by a maximum of X, where X is the smallest laser-on or laser-off time of any real ONU.

SuggestedRemedy

The remedy is to add the ONU's laser on/off times to the REGISTER_REQ message. Specifically, we propose the following change to the REGISTER_REQ message:

Destination Address	6
Source Address	6
Length/Type = 88-08	2
Opcode = 00-04	2
Timestamp	4
Flags	1
Pending grants	1
Laser on time	2
Laser off time	2
Pad/reserved	34
FCS	4

And the following accompanying text:

Laser on time. The ONU's nominal laser-on time, in units of time_quanta.
Each of the ONU's laser-on transitions must take this amount of time, plus or minus one time_quantum.

Laser off time. The ONU's nominal laser-off time, in units of time_quanta.
Each of the ONU's laser-off transitions must take this amount of time, plus or minus one time_quantum.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Dillema facing group:
Previous versions of the draft held these exact variables.
Motion to selcet loose timing allowed implementors to use tight timing lasers as well.
Currently only protocol restricts use of quicker lasers.

Should we reinstate these variables?

Cl **64** *SC* **64.4.4** *P* **411** *L* **16** *#* **801**

Bemmel, Vincent Alloptic

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

Sentence not clear:
"c) Pending grants. This is an unsigned 8 bit value signifying the number of future grants the ONU may buffer before activating. The OLT should not grant the ONU more than Pending grants into the future."

See also p412 line 31

SuggestedRemedy

Replace with

"c) Maximum nunber of Pending grants. This is an unsigned 8 bit value signifying the maximum number of future grants the ONU is configured to buffer. The OLT should not grant the ONU more than the Maximum number of Pending grants into the future."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
To abreviate variable names:
c) Pending grants. This is an unsigned 8 bit value signifying the maximum number of future grants the ONU is configured to buffer. The OLT should not grant the ONU more than the Maximum number of Pending grants into the future

Cl **64** *SC* **64.5** *P* **414** *L* **40** # **653**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
PICS are missing.

SuggestedRemedy
Accept and use elynskey_2_0503.pdf as the starting point for the Clause 64 PICS. Grant editor license to rearrange and modify as necessary.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **64-10** *P* **372** *L* # **1049**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-10: It is not clear what the value of time-stamp corresponds into. Does it correspond to the beginning of the frame, the end of the frame or ...

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Timestamp corresponds to value in timestamp field
timestamp shoul dbe extracted in PARSE TIMESTAMP state as timestamp <= data[17:48]

Cl **64** *SC* **64-10** *P* **372** *L* # **1050**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-10: In state PARSE TIMESTAMP, the value of the local time is reset to the value of the timestamp only in the case of ONU and the RTT is calculated at the OLT only. This is not clear from the state diagram

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Issue corrected by split of diagram to ONU and OLT case

Cl **64** *SC* **64-12** *P* **374** *L* # **1052**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-12: In transiting from CHECK SIZE state to TRANSMIT FRAME (<=) should read (>=).

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Cl **64** *SC* **64-12** *P* **374** *L* # **1051**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-12: Transition from GATED to TRANSMIT READY state is not defined.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Transition should be:

Cl **64** *SC* **64-13** *P* **381** *L* # **1055**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-13: The value of Default LLID used in the REGISTER_REQ is not defined. Is this (0xFFFF) or (0x0000) or …?

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
See comment 292

Cl **64** *SC* **64-19** *P* **392** *L* # **1056**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
Figure 64-19: In COMPLETE DISCOVERY state the timer ONU_timer should be stopped

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.
See 711

Cl **64** *SC* **64-28** *P* **404** *L* # **1057**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
- Figure 64-28: In state START TX, laser_on_time should be incorporated into calculation of stopTime.

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED REJECT.
This is not required as this time is inclded in the length parameter.

Cl **64** *SC* **64-6** *P* **368** *L* # **1047**
kottapalli, sreen Centillium Communicat

Comment Type **T** *Comment Status* **D**
States WAIT PENDING and WAIT PROGRESS can be removed without any effect in the state machine operation

SuggestedRemedy

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.
Only state WAIT PROGRESS is not required

Cl **64** *SC* **Figure 64-10** *P* **372** *L* **20** # **203**
Zheng, Caihua I2R

Comment Type **T** *Comment Status* **D**
The mpcp_timer should be reset in the control parser when a valid MPCPDU comes in.

SuggestedRemedy
Add in PARSE TIMESTAMP state:
if opcode!=GATE + FLAG!=dicovery gate
[start mpcp_timer]

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **Figure 64-10** *P* **372** *L* **21** # **208**
Zheng, Caihua I2R

Comment Type **T** *Comment Status* **D**
There should be difference between the ONU and the OLT in PARSE TIMESTAMP state.

SuggestedRemedy
Change the words inside the PARSE TIMESTAMP state to:
if OLT
timestampError <= if(abs(timestamp-localTime)>guard_threshold)
if timestampError * opcode != REGISTER_REQ
RTT <= localTime - timestamp
if ONU
localTime <= timestamp

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The diagram will be split into ONU and OLT versions. See # 665

Cl **64** *SC* **Figure 64-11** *P* **373** *L* # **666**
Glen Kramer Teknovus

Comment Type **T** *Comment Status* **D**
Variable names in the diagram don't correspond to their names in text.

SuggestedRemedy
Fix the names according to the naming convention.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **64** *SC* **Figure 64-11** *P* **373** *L* **9** # **908**
Tom Mathey Independent

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

When two or more exit conditions from a state are possible, then these exit conditions must be defined to be mutuallly exclusive. As MA-DATA and MA_CONTROL could both go active at the same time, control must be given priority.

SuggestedRemedy

Make exit conditions mutuallly exclusive.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Change the transition label from INIT state to SIGNAL_DATA to 'MA_DATA.request * !MA_CONTROL.request'

Cl **64** *SC* **Figure 64-14** *P* **382** *L* # **672**
Glen Kramer Teknovus

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

In the text below the diagram lower case "t" should be used for time values and upper case "T" for time intervals, i.e., T_wait = t2-t1 and T_response = t2-t0.

Change "ONU local time -t1" to "ONU loval time = t1"

SuggestedRemedy

See comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **Figure 64-3** *P* **362** *L* **49** # **978**
Maislos, Ariel Passave

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

Figure 64-3 is now redundant

SuggestedRemedy

Remove Figure 64-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **64** *SC* **Figure 64-33** *P* **413** *L* **1** # **288**
Hirth, Ryan Terawave Communica

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

REGISTER MPCPDU format is inconsistent with REGISTER_REQ and REGISTER_ACK messages.

All other messages follow the sequence OPCODE, TIMESTAMP, FLAGS. The REGISTER_ACK message goes FLAGS, ASSIGNED PORT while the REGISTER message goes ASSIGNED PORT, FLAGS.

Consistent definitions will clarify the standard.

SuggestedRemedy

Swap the ASSIGNED PORT and FLAGS field in the REGISTER MPCPDU.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Frame format has been stable for many versions of draft.
Change does not add to clarity of standard as message is list of fields without interelated explanations.

Cl **64** *SC* **table 64-4** *P* **411** *L* **3** # **287**
Hirth, Ryan Terawave Communica

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

MPCPPDU Flag fields are inconsistently defined across REGISTER_REQ, REGISTER, and REGISTER_ACK messages. For example a deregister is a flag of 3 in a REGISTER_REQ and a flag of 2 in a REGISTER.

Consistency in definition will clarify the specification.

SuggestedRemedy

Change Table 64-4 and Table 64-6 to match the assigned values in Table 64-5.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
There are no common values across messages.
The flags field contains return codes, which are unique for every message exchage.

Cl **65** *SC* **00** *P* *L* # **658**
Glen Kramer Teknovus

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

Clause 65 should not talk about different MAC types, e.g., “unicast MAC” and “multicast MAC” or “point-to-point MAC” and “shared MAC”.

An EPON with only P2P logical links is perfectly compliant with .1D. Second MAC instance per ONU is only needed when a ULSLE layer is implemented to do selective broadcast.

The layer that knows how to properly direct frames into different MACs (i.e. P2P-MAC and S-MAC) should contain the description of those MACs and explain that P2P-MAC can receive and transmit, but S-MAC can only transmit. This layer is ULSLE, not the RS. From RS-layer perspective, all the MACs are the same; the only difference is in the filtering function (positive vs. negative filtering).

SuggestedRemedy

Remove the description of “unicast MAC” and “multicast MAC” or “point-to-point MAC” and “shared MAC”. Only describe how mode fit affects filtering functions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The commenter is urged to provide specific editing instructions for these changes.

Cl **65** *SC* **1.1** *P* **420** *L* **8** # **169**
ISHIDA, Taro NTT

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

This is a response to Editors note.
A proposal for new name of "unicast MAC" and "multicast MAC" is "point to point emulation MAC" and "shared emulation MAC".It also can be written "P2PE MAC" and "SE MAC".

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment #658

Cl **65** *SC* **65** *P* **419** *L* **1** # **300**
Brown, Benjamin Independent

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

Modify this paragraph with pieces from both RS and FEC sections

SuggestedRemedy

Remove the last sentence. Between the first and second sentences, insert the following:

"This is an optical multi-point network that connects multiple DTEs using a single shared fiber. The architecture is asymmetrical, based on a tree and branch topology utilizing passive optical splitters."

As a result of this change, remove the first three sentences from 65.2.1 then make this sentence the first of the next paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.1.1** *P* **419** *L* **44** # **785**
Bemmel, Vincent Alloptic

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

Replace 'LLID...performs' with 'LLID...represents'

SuggestedRemedy

Replace

"Associated with each MAC is a Logical Link Identifier (LLID) that performs a mapping function"

with

"Associated with each MAC is a Logical Link Identifier (LLID) that represents a mapping function"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.1.1** *P* **419** *L* **46** # **302**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Modify the third paragraph.

SuggestedRemedy
Remove the first 2 sentences, replacing them with:

"A successful registration process, described in 64.3.8, results in the assignment of values to the MODE and LLID variables associated with a MAC. This may be one of many MACs in an OLT or a single MAC in an ONU."

Modify the third sentence to read: "This subclause describes how the MODE and LLID variables are used to identify a packet transmitted from that MAC and how received packets are directed to that MAC."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.1** *P* **419** *L* **53** # **303**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
No longer use indexing to refer to the MACs

SuggestedRemedy
Remove the next to last sentence from the fourth paragraph. Remove the last sentence from the 5th paragraph. Remove the editors' note.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.1** *P* **419** *L* **9** # **301**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Reword the first 2 paragraphs

SuggestedRemedy
"This subclause extends Clause 35 to enable multiple data link layers to interface with a single physical layer. The number of MACs supported is limited only by the implementation. It is qacceptable for only one MAC to be connected to this Reconciliation Sublayer. Figure 65-1 shows the relationship of this RS to the ISO/IEC OSI reference model. The mapping of GMII signals to PLS service primitives is described in 35.2.1."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2** *P* **420** *L* **17** # **304**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Change wording

SuggestedRemedy
Replace "mapping for multiple" with "mapping between MODE and LLID variables and multiple"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.1** *P* **420** *L* **26** # **629**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
It may not be necessary to have two 'shalls' in this sentence.

SuggestedRemedy
Replace with: This variable shall be 1 for an OLT and 0 for an ONU.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.2** *P* **420** *L* **33** # **630**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
Sentence could be reworded to have the shall cover the entire variable.

SuggestedRemedy
Replace beginning of sentence with: This variable shall be defined as follows:

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The editor expects the wording of this variable to be changed due to the resolution to comment #658.

Cl **65** *SC* **65.1.2.2** *P* **420** *L* **40** # **631**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
This sentence could be reworded to have the shall cover the entire variable.

SuggestedRemedy
Replace with: This variable shall be defined as follows:

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The editor expects the wording of this variable to be changed due to the resolution to comment #658.

Cl **65** *SC* **65.1.2.3** *P* **421** *L* **3** # **786**
Bemmel, Vincent Alloptic

Comment Type **T** *Comment Status* **D**
The current preamble replacement mapping plan proposes, among others, that the SPD field replaces the 3rd octet, and the CRC8 field replaces the 8th octet of the preamble (previous SFD).

This makes it incompatible with legacy Ethernet equipment. E.g., I cannot use off-the-shelf Ethernet test gear to look at PON traffic. Legacy equipment would expect the DA immediately after the SFD.

SuggestedRemedy
Reassign the replacement map as follows:

octet 1 = 0x55;
octet 2 = 0x55;
octet 3 = TBD value, different from 0xd5(SPD);
octet 4 = 0x55;
octet 5 = <logical_link)id[18:8]>;
octet 6 = <logical_link_id[7:0]>;
octet 7 = CRC8 over offsets 2:6;
octet 8 = 0xf5 (SFD)

Proposed Response *Response Status* **W**
PROPOSED REJECT.

Test equipment will need to be changed to understand and extract the LLID field anyway.

Cl **65** *SC* **65.1.2.3.1** *P* **421** *L* **24** # **307**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
There's info about the 1000BASE-X transmit state diagram that is not an integral part of this description but is worthy of a reminder

SuggestedRemedy
Move all but the last sentence to a note.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.3.2** *P* **421** *L* **33** # **430**
GIRI K K Wipro Technologies

Comment Type **T** *Comment Status* **D**
"The LLID replaces the last two octets of preamble" this is not correct.

SuggestedRemedy
it is not “last two octets of preamble":
but 6th &7th byte of preamble because CRC is the last byte of preamble.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The CRC replaces the SFD. The preamble is only 7 octets long.

Cl **65** *SC* **65.1.2.3.3** *P* **421** *L* **38** # **308**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Reword the first two sentences

SuggestedRemedy
Remove the first sentence. Replace "CRC" in the second sentence with "Cyclic Redundancy Check"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.4** *P* **421** *L* **53** # **309**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Extraneous words

SuggestedRemedy
Remove the words "index of the" from bullet c)

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.4** *P* **423** *L* **19** # **1127**
Matthews, Manyalibo Lucent Technologies

Comment Type **T** *Comment Status* **D**
The current draft does not specify which llid (number) is sent in the preamble of a discovery gate (by the olt) and whether or not it should have a broadcast bit set. It can be inferred from the draft that broadcasting from the OLT side (such as sending discovery gates) can be performed by using any llid value that is not assigned to any of the registered onu-s, with the broadcast bit set. However, clause 65.1.2.4.2 b), it sounds like there is a designated llid value for broadcast messages.

Similarly, in the same clause, the broadcast value is mentioned in association with packets sent by the onu(s), but it is not specified which value it is.

SuggestedRemedy
Specify in clause 65 (and if necessary 64) to specify the setting of the broadcast bit in discovery gates.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The editor believes this is an issue for Clause 64. It may be necessary to reassign this comment to that clause.

Cl **65** *SC* **65.1.2.4.1** *P* **423** *L* **2** # **310**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Change the wording of the sentence to further promote the SPD existing in the third octet

SuggestedRemedy
Replace "Either way, the SPD is always passed without modification." with "The SPD is transmitted in the third octet."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.4.1** *P* **423** *L* **2** # **632**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
The sentence starting with "These shall be the only two..." probably doesn't need to have a shall in it. The sentence following this is very explicit with what to do to a received packet that doesn't fit into one of these two possibilities.

SuggestedRemedy
Replace start of sentence with: These are the only two...

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The point of this sentence is to restrict the search for the SPD to only the second and third received octets. If it is felt this is covered sufficiently in the latter sentences then the editor is fine with the change.

Cl **65** *SC* **65.1.2.4.2** *P* **383** *L* **42** # **241**
Zheng, Caihua I2R

Comment Type **E** *Comment Status* **D**
Clause 64.3.4.3 P384 L15 has a cross reference of SCB 65.1.2.4.2 but not found.

SuggestedRemedy
Add in description of SCB

Proposed Response *Response Status* **W**
PROPOSED REJECT.

64.3.4.3 is referencing the filtering rules described in 65.1.2.4.2.

Cl **65** *SC* **65.1.2.4.2** *P* **423** *L* **22** # **94**
Ohnishi, Hiroya OF Networks

Comment Type **E** *Comment Status* **D**
The term "logical_link_id parameter" used here seems to be the same thing as "logical_link_id variable" used in other places. The "logical_link_id parameter" is not used any other places in this document.
The term "logical_link_id parameter" should be replaced by "logical_link_id variable".

SuggestedRemedy
Replace the term "logical_link_id parameter" with "logical_link_id variable".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.1.2.4.2** *P* **423** *L* **26** # **311**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
missing comma

SuggestedRemedy
Replace "found then" with "found, then"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2** *P* **419** *L* # **90**
Koichiro Seto Hitachi Cable

Comment Type **T** *Comment Status* **D**
The term of Gigabit Ethernet Passive Optical Network (GE-PON) is first used in this section. Before this section, Ethernet PON is referred as EPON but not GE-PON.

SuggestedRemedy
Consolidate the term describing Ethernet PON in Clause 58, 64 & 65 and clarify what the term 'EPON' means. I would suggest using 'EPON' for describing generic Ethernet PON and 'Gigabit EPON (G-EPON)' for EPON using 1000BASE-X PCS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE.

The editor will work with the Clause 58 & 64 editors to resolve this naming issue.

Cl **65** *SC* **65.2** *P* **423** *L* # **88**
Koichiro Seto Hitachi Cable

Comment Type **T** *Comment Status* **D**
The purpose of FEC is defined as "to increase the optical link budget or the fiber distance using an Multi-Longitudinal Mode (MLM) transmitter in the uplink reducing the Mode Partition Noise (MPN) penalty." However, it does not specify the maximum distance of fiber after using FEC.

SuggestedRemedy
Speficy the expected fiber distance after using FEC.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

This is not the place to talk about fiber distances, or even transmitter types and noise penalties. These all belong in the PMD Clause. See comment #312 that removes this text.

Cl **65** *SC* **65.2** *P* **424** *L* # **89**
Koichiro Seto Hitachi Cable

Comment Type **T** *Comment Status* **D**
One of the objectives of FEC is defined as "Support BER objective of 10e-12 at PCS." However, it does not specify the GE-PON BER without FEC.

SuggestedRemedy
Specify the expected BER for GE-PON without FEC.

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The PCS expects a BER of 10^-12. If FEC doesn't exist, the GE-PON needs to provide this BER. However, this is a FEC subclause and I don't believe discussion of non-FEC BERs belongs here.

Cl **65** *SC* **65.2.1** *P* **423** *L* **50** # **312**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Too much information. The transmitter penalty types belong in the PMD clause, not here.

SuggestedRemedy
End the last sentence after "... fiber distance."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.1** *P* **424** *L* **10** # **313**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
This paragraph is repeated almost word for word in 65.2.4.1, where it fits better.

SuggestedRemedy
Remove this paragraph.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.1** *P* **424** *L* **7** # **314**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Add sentence and reference to Figure 65-3

SuggestedRemedy
Between the 2 sentences of this paragraph, add the following:

"Figure 65-3 shows the relationship of this sublayer to the ISO/IEC OSI reference model.

Remove subclause 65.2.1.2

Remove the heading for subclause 65.2.1.1

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.1.1** *P* **424** *L* **22** # **633**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
The BER objective should be 10^-12 and not 10e-12. The same for the FEC BER objective.

SuggestedRemedy
Replace 10e-12 and 10e-4 with 10^-12 and 10^-4 (using proper superscript), respectively.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.2** *P* **425** *L* **7** # **816**
Lee, Hoon ETRI (Electronics Tele

Comment Type **E** *Comment Status* **D**
Line from 7 to 24. In my opinion, the description of the Reed-solomon code is not clear entirely. To make it clear and finalize, it would be better replace some unclear definitions with that of ITU-T G.975.

SuggestedRemedy
Please refer an attatched file named lee_p2mp_1_0503.pdf where I rewrote the subclause 65.2.2

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.1** *P* **425** *L* **32** # **315**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
There's too much confusion between ethernet frames and FEC frames.

SuggestedRemedy
Use the term block. Replace all instances of "239-symbol frames" and "FEC frames" with "block". Keep the "239-symbol" term on line 32.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.1** *P* **425** *L* **38** # **316**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Replace the last sentence

SuggestedRemedy
New text: "The FEC coding begins with the first octet following the /S/ code-group and ends with the last octet before the /T/ code-group."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.3** *P* **426** *L* **24** # **320**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Change wording

SuggestedRemedy
Replace "start and stop" with "start and end".
Replace "code-groups." with "code-groups:"
Remove The definition of the symbols is:"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.3** *P* **426** *L* **30** # **321**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
/T/, /R/ and /I/ need to be defined better

SuggestedRemedy
Add the following at the beginning of this paragraph:

"/T/, /R/ and /I/ are described in Table 36-3."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.3** *P* **426** *L* **4** # **317**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Extra word

SuggestedRemedy
Replace "Therefore, the ethernet" with "The ethernet"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.3** *P* **426** *L* **8** # **318**
Brown, Benjamin Independent

Comment Type **T** *Comment Status* **D**
The /S_FEC/ is only 5 octets long

SuggestedRemedy
Replace "sequence used is 6 octets long and the sequence is long enough" with "sequences used are at least 5 octets long, long enough"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.3.3** *P* **426** *L* **9** # **319**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
clean up wording

SuggestedRemedy
Replace "start FEC frame framing" with "start FEC framing".
Replace "end of FEC frame framing" with "end FEC framing"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.2** *P* **427** *L* **35** # **818**
Lee, Hoon ETRI (Electronics Tele

Comment Type **E** *Comment Status* **D**
In the figure 65-5, the variables ftx_code-group<9:0> and tx_code-group<9:0> should exchange their position each other.

SuggestedRemedy
Please refer the D1.414 line from 47 to 48 of the page 427 and the figure 65-9 in the page 432.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Identical comment to #323.

Cl **65** *SC* **65.2.4.2** *P* **427** *L* **35** # **817**

Lee, Hoon ETRI (Electronics Tele

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

Figure 65-5. In the figure, there are three clocks such as TBC(Transmit Byte Clock), RBC0(Receive Byte Clock 0) and RBC1. But there is no description about them in the document. It is needed that define the functions and speeds of three clocks.

SuggestedRemedy

In my opinion, there are two possible cases of clock definition.

CASE 1) TBC : Transmit Byte clock, 125MHz
RBC0 & 1 : Receive Byte clocks that have 180 degree difference each other, 62.5MHz
CASE 2) TBC : Transmit Byte clock, 125MHz
RBC0 : Receive Byte clock, 125MHz
RBC1 : Not used

The 62.5MHz RBC0 & 1 is used to classify even/odd byte of the received data. It is useful to PCS. But, in the case of FEC where 125MHz operation is mandatory and octet alignment is used, extra clock synthesis circuit that makes 125MHz clock from 62.5MHz RBC0 & 1 is needed.

It would be better use CASE 2 to reduce extra burden.
62.5MHz RBC0 & RBC1 is defined in the Gigabit Ethernet standard of course. But PMA chips that can support 125MHz RBC0 output optionally are used already nowadays.

Anyway, whatever CASE we choose, there should be needed exact definitions of the clocks.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

These are part of the TBI that is discussed in 65.2.1 and should have referenced 36.3.3.

Add this reference to 65.2.1.

Cl **65** *SC* **65.2.4.2** *P* **427** *L* **35** # **819**

Lee, Hoon ETRI (Electronics Tele

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

In the figure 65-5 and line 52, it would be better replace the name octet alignment with code-group alignment.

SuggestedRemedy

Figure 65-7 in the page 428 of D1.414 clearly shows the 10 bit based 8B10B code-group alignment operation of the octet alignment block.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

This logic performs neither octet nor code-group alignment. It performs synchronization according to the state diagram in figure 65-10. Comment #324 removes this block diagram and cleans up the description of this text.

Cl **65** *SC* **65.2.4.2** *P* **428** *L* **25** # **820**

Lee, Hoon ETRI (Electronics Tele

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

Figure 65-6. In the transmit block diagram, there should be FEC bypass channel like receive data block diagram in the Figure 65-8. It is because the functionality of the FEC is optional.

SuggestedRemedy

Please refer an attatched file named lee_p2mp_2_0503.pdf where I redrew the figure 65-2

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Comment #325 removes this block diagram.

Cl **65** *SC* **65.2.4.2** *P* **429** *L* **25** # **821**

Lee, Hoon ETRI (Electronics Tele

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

Figure 65-8. In the receive data block diagram, it would be better divide FEC decoding block into 3 separate blocks 8B10B decoding, FEC decoding and 8B10B encoding. It is because to clarify the functions of the FEC decoding and 8B10B encoding. To do this, while implementing the FEC sublayer and PCS sublayer in a chip, 8B10B encoding/decoding/TBI functions between PCS and FEC sublayers can be omitted.

SuggestedRemedy

Please refer an attatched file named lee_p2mp_3_0503.pdf where I redrew the figure 65-2

Proposed Response *Response Status* **W**

PROPOSED REJECT.

While the editor likes this figure better than the original, comment #326 removes this block diagram.

Cl **65** *SC* **65.2.4.2.1** *P* **427** *L* **40** # **325**

Brown, Benjamin Independent

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

The transmit block diagram isn't particularly useful and can be misleading.

SuggestedRemedy

Remove the first sentence in the first paragraph. Replace the second sentence with: "The FEC Transmit process searches the data stream from the PCS for packet delimiters.

Remove Figure 65-6.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.2.1** *P* **427** *L* **42** # **322**

Brown, Benjamin Independent

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

Missing period

SuggestedRemedy

Replace "buffered The" with "buffered. The"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.2.2** *P* **427** *L* **52** # **324**

Brown, Benjamin Independent

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

This description does not match well with the synchronization state diagram. There is nothing in the state diagram that talks about slipping bits. In fact, nothing prohibits the PMA from performing comma detection. Change this description to match the synchronization state diagram details, without specifying who performs comma alignment (the PMA or the FEC sublayers).

SuggestedRemedy

Change the label of the block in Figure 65-5 from "OCTET ALIGNMENT" to "SYNCHRONIZATION"

Change this section to read:

"The FEC Synchronization process continuously accepts code-groups via the PMA_UNITDATA.indicate primitive and conveys received code-groups to the FEC Receive process via the SYNC_UNITDATA.indicate primitive.The FEC Synchronization process sets the sync_status flag to indicate whether the PMA is functioning dependably (as well as can be determined without exhaustive error-rate analysis)."

Remove Figure 65-7.

Change the heading of 65.2.4.3.8 from "Receive octet alignment state diagram" to "Receive synchronization state diagram". Change this in the text as well.

Change the label of Figure 65-10 as well.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.2.2** *P* **428** *L* **53** # **326**

Brown, Benjamin Independent

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

The receive block diagram isn't particularly useful and can be misleading.

SuggestedRemedy

Change this paragraph to read:

"The FEC Receive process continuously accepts code-groups via the SYNC_UNITDATA.indicate primitive. It fills a buffer with these code-groups, converting an /S_FEC/ with fewer than d/2 errors to /I/I/S/ and converting all /T_FEC/ with fewer than d/2 errors to a clean /T_FEC/. This buffer exists in order to store all necessary data until the parity octets are available for performing data correction. Data correction is performed within the buffer. While emptying the buffer, the parity octets, along with the latter part of the first /T_FEC/ and the entire second /T_FEC/ are converted to /I/."

Remove Figure 65-8.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.3** *P* **429** *L* **28** # **636**

Lynskey, Eric UNH-IOL

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

This is a purely editorial comment on all of 65.2.4.3 to reorganize slightly the clause numbering and titles.

SuggestedRemedy

Rename 65.2.4.3 State diagrams to 65.2.5 Detailed functions and state diagrams. Create heading 65.2.5.1 State Variables and then the subclasues for constants, variables, functions, counters, messages, and timers all fall under that as 65.2.5.1.1 Counters, etc. Finally create subclause 65.2.5.2 State Digrams and put the state diagrams under that such as 65.2.5.2.1 Transmit State Diagram, etc.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See related comment #327

Cl **65** *SC* **65.2.4.3** *P* **429** *L* **29** # **823**

Lee, Hoon ETRI (Electronics Tele

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

In my opinion, there's no solution to activate and operate optional FEC sublayer/functionality until now. I think it is the right time to discuss about FEC activation methodology.

SuggestedRemedy

Please refer an attatched file named lee_p2mp_4_0503.pdf where I suggested some ideas about activating optional FEC.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

FEC Auto-Negotiation sounds like a new feature and that deadline is passed.

Cl **65** *SC* **65.2.4.3** *P* **429** *L* **29** # **637**

Lynskey, Eric UNH-IOL

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

Missing boiler plate information on state diagrams such as in 36.2.5, 48.2.6, 49.2.13.1.

SuggestedRemedy

Please add or cut/paste information from one of these clauses or take from here:

The body of this clause is comprised of state diagrams,including the associated definitions of variables, constants, and functions. Should there be a discrepancy between a state diagram and descriptive text, the state diagram prevails. The notation used in the state diagrams in this clause follows the conventions in 21.5. State diagram variables follow the conventions of 21.5.2 except when the variable has a default value. Variables in a state diagram with default values evaluate to the variable default in each state where the variable value is not explicitly set.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.3** *P* **429** *L* **29** # **327**

Brown, Benjamin Independent

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

Need to make the state diagrams normative

SuggestedRemedy

Change heading of 65.2.4.3 to "State variables"

Add a new subclause 65.2.4.4 after 65.2.4.3.6 labeled "State diagrams"

Replace subclause 65.2.4.3.7 with 65.2.4.4.1 and replace the text with: "The FEC shall implement its transmit process as depicted in Figure 65-9, including compliance with the associated state variables as specified in 65.2.4.3."

Replace subclause 65.2.4.3.8 with 64.2.4.4.2 and replace the text with: "The FEC shall implement its synchronization process as depicted in Figure 65-10, including compliance with the associated state variables in 64.2.4.3."

Replace subclause 65.2.4.3.9 with 64.2.4.4.3 and replace the text with: "The FEC shall implement its receive process as depicted in Figures 65-11 and 65-12, including compliance with the associated state variables in 64.2.4.3."

Remove the last to paragraphs from this subclause, as they are a repeat of 65.2.4.2.2.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add a new heading after 65.2.4.2: 65.2.5 Detailed functions and state diagrams

Replace 65.2.4.3 with 65.2.5.1 State Variables

Replace all 65.2.4.3.x with 65.2.5.1.x

Add a new heading 65.2.5.2 after 65.2.5.1.6 labeled "State diagrams"

Replace subclause 65.2.4.3.7 with 65.2.5.2.1 and replace the text with: "The FEC shall implement its transmit process as depicted in Figure 65-9, including compliance with the associated state variables as specified in 65.2.5.1."

Replace subclause 65.2.4.3.8 with 64.2.5.2.2 and replace the text with: "The FEC shall implement its synchronization process as depicted in Figure 65-10, including compliance with the associated state variables in 64.2.5.1."

Replace subclause 65.2.4.3.9 with 64.2.5.2.3 and replace the text with: "The FEC shall implement its receive process as depicted in Figures 65-11 and 65-12, including compliance with the associated state variables in 64.2.5.1." Remove the last two paragraphs from this subclause, as they are a repeat of 65.2.4.2.2.

Cl **65** *SC* **65.2.4.3.7** *P* **431** *L* **32** # **638**

Lynskey, Eric UNH-IOL

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

Add text to description of state diagram. Although additional text may be necessary, this comment simply adds a 'shall' to each of the state diagrams per the method of Clause 48. Another method would be to use a single shall to cover all state diagrams as per Clause 49.

SuggestedRemedy

The FEC sublayer shall implement the transmit process as depicted in Figure 65-9, including compliance with the associated state variables in 65.2.4.3.1-65.2.4.3.6 (or if another comment is accepted, 65.2.5.1).

Add similar text to 65.2.4.3.8 and 65.2.4.3.9 referencing the appropriate figures.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

See related comment #327

Cl **65** *SC* **65.2.4.3.9** *P* **431** *L* **41** # **634**

Lynskey, Eric UNH-IOL

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

Wrong figure reference in first mention of Figure 65-12.

SuggestedRemedy

Replace with reference to Figure 65-11.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.3.9** *P* **431** *L* **51** # **635**

Lynskey, Eric UNH-IOL

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

spelling error

SuggestedRemedy

replace searchs with searches

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.2.4.3.9** *P* **434** *L* **1** # **492**

Khermosh, Lior — Passave

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

In the Vancouver meeting discussions it was stated that the FEC decoder needs to clearly state an error condition in a frame to the PCS when such event occurs. In the meeting there was a suggestion that filling /V/ in the frame would do the work. Therefore I suggest the following. I think that we could also settle on a more general sentence ensuring that the error condition is clearly propogated to the PCS.

SuggestedRemedy

add to line 1: It is expected that the FEC decoder would enter /V/ symbols in the frame when there is an error in the FEC decoding to clearly propagate to the PCS the error condition.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

The editor recommends making this a bit more strict.

Add the following sentence:
The FEC decoder shall replace 1 or more octets in an uncorrectable block with /V/ to clearly propagate the error condition to the PCS.

It seems that the sentence should be in a more visible location, such as at the end of 65.2.2 or in a new section 65.2.3.4 that provides specific detail about the decoding process.

Cl **65** *SC* **65.2.4.4** *P* **435** *L* **31** # **822**

Lee, Hoon — ETRI (Electronics Tele

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

It will be useful that the FEC sublayer would have capability of counting errored and corrected bytes. To do so, there should be error monitoring counters in the FEC sublayer

SuggestedRemedy

Lior Kermosh almost cleared clause 65.2.4.4 with his last reflector mail(written at April 27).
He suggested three counters as below

65.2.4.4 Error monitoring Counters
The following counter applies to FEC sublayer management and error monitoring. If an MDIO interface is provided (see CROSS REF Clause 22), it is accessed via that interface. If not, it is recommended that an equivalent access be provided. These counters are reset to zero upon read or upon reset of the FEC sublayer. When a counter reaches all ones, it stops counting. The counters purpose is to help monitor the quality of the link.

65.2.4.4.1 buffer_head_coding_violation_counter:
16-bit counter. When the receiver is in normal mode,
buffer_head_coding_violation_counter counts once for each invalid code-group received directly from the link.

65.2.4.4.2 FEC_corrected_Blocks_counter
16-bit counter. When the receiver is in normal mode, FEC_corrected_Blocks_counter counts once for each corrected FEC blocks in the decoding.

65.2.4.4.2 FEC_uncorrected_Blocks_counter
16-bit counter. When the receiver is in normal mode, FEC_uncorrected_Blocks_counter counts once for each uncorrected FEC blocks in the decoding.

I basically agree with Lior. But, FEC_uncorrected_Blocks_counter may be not needed inevitably because the uncorrected blocks can be found and counted in the MAC layer by searching FCS field. And, practically, extra hardware logics are needed to find the uncorrected blocks in the FEC sublayer. It causes FEC heavier. The FEC is already a very big block.

In my opinion, it is useful to count only buffer_head_coding_violation and FEC_corrected_Blocks.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The knowledge of a block being correctable or uncorrectable is fundamental to the FEC logic. Adding a counter for one and not the other can't save much more than just the

counter itself. The logic for knowing the difference must already exist. Especially when all the octets of uncorrectable blocks must be replaced with /V/ as is the proposed response to comment #492.

Cl **65** *SC* **65.2.4.4** *P* **435** *L* **31** # **328**

Brown, Benjamin Independent

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

This section has no contents

SuggestedRemedy

Remove subclause 65.2.4.4.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

See comment #497

Cl **65** *SC* **65.2.4.4** *P* **435** *L* **32** # **497**

Khermosh, Lior Passave

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

Error monitor counters for FEC sublayer - similar to clause 36 and to clause 62 FEC counters.
See also comment 14 for clause 30

SuggestedRemedy

65.2.4.4 Error monitoring Counters
The following counters apply to FEC sublayer management and error monitoring. If an MDIO interface is provided (see CROSS REF Clause 22), it is accessed via that interface. If not, it is recommended that an equivalent access be provided.
These counters are reset to zero upon read or upon reset of the FEC sublayer. When a counter reaches all ones, it stops counting.
The counters purpose is to help monitor the quality of the link.

65.2.4.4.1 buffer_head_coding_violation_counter
16-bit counter. When the receiver is in normal mode, buffer_head_coding_violation_counter counts once for each invalid code-group received directly from the link.

65.2.4.4.2 FEC_corrected_Blocks_counter
16-bit counter. When the receiver is in normal mode, FEC_corrected_Blocks_counter counts once for each corrected FEC blocks in the decoding.

65.2.4.4.2 FEC_uncorrected_Blocks_counter
16-bit counter. When the receiver is in normal mode, FEC_uncorrected_Blocks_counter counts once for each uncorrected FEC blocks in the decoding.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **65** *SC* **65.3** *P* **435** *L* # **87**

Koichiro Seto Hitachi Cable

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

I don't think the specification of 1000BASE-PX PMA belongs to Clause 65. At least, the title of Clause 65 does not say anything about PMA extention.

SuggestedRemedy

Move 1000BASE-PX PMA specification to Clause 58 and change the title of Clause 58.

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The Editor-in-Chief and the Chair want all changes to 1G to be in this clause.

Cl **65** *SC* **65.3.3** *P* **436** *L* **18** # **486**
Khermosh, Lior Passave

Comment Type **T** *Comment Status* **D**
Measurements specifications for PON timing - CDR lock time missing.

SuggestedRemedy
The attached file "65.3.3_test.pdf" contains definitions of the parameter and test specifications. This is a new sub section.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **65.4** *P* **436** *L* **20** # **639**
Lynskey, Eric UNH-IOL

Comment Type **E** *Comment Status* **D**
PICS are missing.

SuggestedRemedy
Use attached file elynskey_1_0503.pdf and elynskey_1_0503.fm as the basis for Clause 65 PICS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Thank you, thank you, a thousand "thank you"s!!!!

Cl **65** *SC* **Figure 65.1** *P* **419** *L* **21** # **305**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Clean up the figure

SuggestedRemedy
Get "MAC - Media Access Control" to fit inside the block

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **Figure 65-5** *P* **427** *L* **12** # **323**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Implemented solution to comment #818 from D1.3 wrong

SuggestedRemedy
ftx_code-group goes between FEC and PMA, not between PCS and FEC.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **65** *SC* **Table 65-1** *P* **421** *L* **7** # **306**
Brown, Benjamin Independent

Comment Type **E** *Comment Status* **D**
Clean up the table

SuggestedRemedy
Put a line between Offset 2 & 3.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66** *SC* **66.1** *P* **438** *L* **26** # **838**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D** *span*
Right hand column labeling is not "nominal Span (km)" but rather Maximum Nominal Span (km)"

Do not understand why the word "varies" is used in the last two rows of this table? If the table heading is modifed to "Maximum Nominal ...", why not put the value directly into the table (already is a nominal value).

SuggestedRemedy
Change column heading to "Maximum Nominal Span (km)"

Change Row 5, right column to "0.75 km"

Change Row 6, right column to "2.7 km"

Proposed Response *Response Status* **W**
PROPOSED REJECT.

The table indicates the span defined by the standard. The table does not preclude an implementation that goes beyond the span indicated so long as it is compatible with the defined span.

The word maximum is confusing and could be misinterpreted. Avoiding the terminology would be prefered.

Cl **66** *SC* **66.4** *P* **439** *L* **32** # **839**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D**
Remove the word "only" in this sentence. There are other factors, such as noise, type of noise, that can limit the link length besides simply signal transmission characteristics.

SuggestedRemedy
Remove "only".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66** *SC* **66.5** *P* **439** *L* **39** # **840**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D**
The phrase beginning with however, many local ..." is redundant with the following sentence. Remove this phrase. If needed, can add the word However to the following sentence.

SuggestedRemedy
Delete parenthetical phrase begining with "however". Next sentence: However, it is important that systems are designed ..."

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66** *SC* **66.6.1** *P* **439** *L* **51** # **976**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Verb tense.

SuggestedRemedy
Change "are not capable" to "were not capable".

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66** *SC* **66.6.1** *P* **439** *L* **54** # **977**
Daines, Kevin World Wide Packets

Comment Type **E** *Comment Status* **D**
Pagination.

SuggestedRemedy
Extra <carriage return> after "1.7" should be removed.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66A** *SC* **0** *P* **475** *L* **15** # **847**
Carlo, James J.Carlo Consulting sup

Comment Type **E** *Comment Status* **D**
Missing Reference to IEC 60721-2-1.

SuggestedRemedy
Add Reference to IEC 60721-2-1.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be discussed at the meeting

Cl **66A** *SC* **66-1** *P* **476** *L* **40** # **846**
Carlo, James J.Carlo Consulting sup

Comment Type **E** *Comment Status* **D**
Missing S on 10PASS-TS.

SuggestedRemedy
Add S so that each column reads 10PASS-TS.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66A** *SC* **66A.2** *P* **477** *L* **15** # **848**
Carlo, James J.Carlo Consulting sup

Comment Type **T** *Comment Status* **D**
I cannot figure out where the "1120W/cm**2" came from. One could reference another standard or even a journal article with data.

SuggestedRemedy
I don't know where this number came from? Sorry.

Proposed Response *Response Status* **W**
PROPOSED ACCEPT IN PRINCIPLE. Will be clarified at the meeting and text changed to match

Cl **66A** *SC* **66A.3.1** *P* **479** *L* **30** # **550**
Jonsson, Ulf Ericsson

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

SuggestedRemedy
Change "Warn" to "Warm"

Proposed Response *Response Status* **W**
PROPOSED ACCEPT.

Cl **66A** *SC* **66A.3.1** *P* **479** *L* **44** # **478**

Squire, Matt — Hatteras Networks

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

Telcordia has well-known and specified requirements on the low-end of temperature range. A low-end temperature range of -30C does not meet GR-487/GR-468. We must support -40C to meet current extended temperature specs.

SuggestedRemedy

Lower cool extended and universal extended low temperature to -40.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE. The temperature ranges were chosen so as to generate maximum overlap with listed climate specifications and to ensure identical temperature bands for hot and cold (i.e. 80°C). It is also stated that a temperature of -40°C is not precluded. This item will be discussed further at the meeting

Cl **66A** *SC* **Table 66-1** *P* **476** *L* **28** # **549**

Jonsson, Ulf — Ericsson

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

Missed ')'.

SuggestedRemedy

Add ')' after "...network"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.