# 8802-3/802.3 REVISION REQUEST 1228

DATE: 24th Jun, 2010
NAME: Marek Hajduczenia
COMPANY/AFFILIATION: ZTE Corporation
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REQUESTED REVISION:
STANDARD: IEEE 802.3av-2009
CLAUSE NUMBER: Annex 31C
CLAUSE TITLE: MAC Control organization specific extension operation

PROPOSED REVISION TEXT:
Changes suggested against IEEE 802.3av-2009 text:

(1) Changes in '31C.1 Organization specific extension description'
(a) change text 'for other standards development organizations' to read 'for other organizations'
(b) remove text ', in particular ITU-T,'
(c) remove text 'The first application of this is to enable Physical Layer Operations, Administration, and Management (PLOAM) messages related to protection switching, low-level performance monitoring, and management channel set-up (see ITU-T G.984 and ITU-T G.983).'

(2) Changes in '31C.2 Transmission of Extension MAC Control frame'
(a) replace the content of bullet d) with the following text: 'The remainder of the mac_service_data_unit is set to the concatenation of the Extension Opcode, Organizationally Unique Identifier[2] (OUI) assigned to the organization by the IEEE, and the organization-specific data.'

(3) Changes in '31C.3.1 Receive state diagram (INITIATE MAC CONTROL FUNCTION) for EXTENSION operation'
(a) remove text ' = 0x0019A7' in Figure 31C-1, field OUI

RATIONALE FOR REVISION:
Current text of Annex 31C in IEEE 802.3av-2009 makes the EXTENSION MAC Control frame the sole property of ITU-T, disallowing any other organizations, bodies or holders of officially IEEE assigned OUI codes from using this MAC Control frame. Considering the existence of organization-specific extension mechanisms for OAM (IEEE Std 802.3 Clause 57.4.3.6) and Slow Protocol (Annex 57B), one could expected that also MAC control channel would allow for the same extensibility through the EXTENSION MAC Control.
Originally, ETXTENSION MAC Control frame was added in response (see http://ieee802.org/3/minutes/jul08/0708_802_3_to_ITU_SG15_LS01.pdf) to the liaison letter from ITU-T SG15Q2 (see http://www.ieee802.org/3/minutes/jul08/0708_ITU_SG15_to_802_3_LS01.pdf - Annex A to this maintenance request), which satisfied the purpose of such an extension channel as indicated in the response from SG15Q2 (see http://www.ieee802.org/3/minutes/nov08/1108_ITU_SG15_to_802_3_LS01.pdf - Annex B to this maintenance request). The format of Annex 31C, satysfying all

the requirements of the organization originally requesting addition of MAC Control extensions, is attached as Annex C to this maintenance request.

During the Working Group ballot on P802.3av, as part of the comment resolution #2711 against D2.1 (see http://www.ieee802.org/3/av/public/2008_11/3av_0811_comments_d2_1_accepted.pdf - attached as Annex D), the original purpose of the EXTENSION MAC Control frame was altered and the restriction on the range of allowable OUI codes was placed, which was neither communicated to the source organization nor requested by that organization. The introduced changes also mean that organization interested in the use of EXTENSION MAC Control frame is required right now to apply to ITU-T to request an assignment of internal extended opcode in the 'Organization Specific Data' field, effectively making the ITU-T the code assignment authority for Ethernet frames.

IMPACT ON EXISTING NETWORKS:
None. EXTENSION MAC Control frame format is preserved. Additional OUI values are allowed to maintain open character of the Ethernet standards and allow for the use of officially (and legally) assigned OUI code points.

| Please attach supporting material, if any | | |
|---|---|---|
| Submit to:- David Law, Chair IEEE 802.3 | | |
| and copy:- Wael William Diab, Vice-Chair IEEE 802.3 | | |
| At:- E-Mail: stds-802-3-maint-req@ieee.org | | |
| | For official 802.3 use | |
| | REV REQ NUMBER: 1228 | |
| | DATE RECEIVED: 24th Jun, 2010 | |
| | EDITORIAL/TECHNICAL | |
| | ACCEPTED/DENIED | |
| | BALLOT REQ'D YES/NO | |
| | COMMENTS: XX-Xxx-XX Ver: D1.0 Status: R | |
| For information about this Revision Request see - | | |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1228 | | |

# IEEE 802.3 Ethernet Working Group
# Liaison Communication

Source: IEEE 802.3 Working Group[1]

To: Yoichi Maeda, Chairman, ITU-T Study Group 15 (yoichi.maeda@ntt-at.co.jp)
Members ITU-T Question 2/15

CC: Paul Nikolich, Chair, IEEE 802 LMSC (p.nikolich@ieee.org)
Adam Healey, Secretary, IEEE 802.3 Ethernet Working Group (adam.healey@lsi.com)
Glen Kramer, Chair, IEEE P802.3av Task Force (glen.kramer@teknovus.com)

Subject: Liaison letter ITU-T SG15 to IEEE 802.3 LS 1

From: David Law – Chair, IEEE 802.3 Ethernet Working Group (David_Law@3Com.com)

Approval: Agreed to at IEEE 802.3 Plenary meeting, Denver, July 17, 2008

Action: Response / Information

Dear Mr. Maeda and members of ITU-T SG15:

The IEEE 802.3 Working Group thanks SG15 for their liaison regarding the proposed interworking of ITU next generation PON and IEEE P802.3av standards systems. The group supports the basic goal of having standards from the two groups work together in a harmonious way, with the IEEE 802.3 standard providing the necessary interfaces such that the ITU standards may provide extended functions that are beyond the scope of IEEE 802.3 while not modifying the base IEEE 802.3 standard.

Concerning the specific interfaces, we would like to note that IEEE Std 802.3 already provides an extensible interface to the OAM channel, as described in IEEE Std 802.3 Clause 57.4.3.6. An organization specific OAMPDU is defined with a code of 0xFE. The message data field begins with the organizational unique identifier (OUI) of the relevant organization, and the remainder of the data field is defined by that organization. We note that ITU-T has already been allocated an IEEE OUI: 00-19-A7 (hex). Therefore, the mechanism is in place to address any extensions to the OAM channel.

In addition, the next revision of the standard is proposed to provide an additional extension to the slow protocol channel, as described in Annex 57B. Here, an organization specific slow protocol sub-type is defined with a code 0x0A. The message contents begin with an OUI, and the remainder of the message contents are defined by the indicated organization.

To the specific request to extend the MPCP channel, the preferred approach is to follow the precedent of the OAM channel. However, to make this even more generic and widely usable, the extension will be applied to the MAC control channel, as described in IEEE Std 802.3 Clause 31. (MPCP is a subtype of MAC Control.) A new opcode shall be defined that will indicate an

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[1] This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

organization specific MAC Control message. The payload will then consist of the OUI of the defining organization and the organizationally defined contents. With this in place, it will be possible for ITU to define specific extensions to the MPCP channel. For your reference, we attach the two documents that contain the proposed text for this function. Please note that this material is only a proposal, and is subject to change during balloting.

We believe that with these three extensible message types in place, the necessary interfaces for the successful interworking of the ITU and IEEE standards will be in place. We look forward to continuing our dialog with SG15 on this and other matters. Our next plenary session will be in held in Dallas, Texas, USA on the week of Nov. 10th.

# Annex 31A

(normative)

## MAC Control opcode assignments

***Update Table 31A-1 by replacing the last row in the table with the following three rows:***

| | | | | |
|---|---|---|---|---|
| 00-07 through xx-xw | Reserved | | | |
| xx-xx | EXTENSION | | This frame is used for Organization-Specific Extension. Upon reception of this message, the MAC Control generates MA_CONTROL.Indication informing the MAC Control Client to perform the relevant action. | No |
| xx-xy through xx-xz | Reserved | | | |

***Add a new Table 31A-8 after Table 31A-7 with the description of EXTENSION frame with the following contents:***

**Table 31A–8—EXTENSION MAC Control indications**

| **EXTENTSION (opcode 0xFFFE)** | | |
|---|---|---|
| **indication_operand_list element** | **Value** | **Interpretation** |
| OUI | 24 bits | Organizationally-Unique Identifier that determines the format and semantics of the Value field and its subfields, if any are defined. |
| Value | variable | Organization-specific value, distinguished by the OUI. |

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# Annex 31C

(normative)

# MAC Control organization specific extension operation

## 31C.1 Organization specific extension description

The extension operation is used to provide a standardized means for organizations to define their own MAC Control protocols outside the scope of this standard. The requirements defined in @@Clause 31@@ apply to these protocols.

## 31C.2 Transmission of Extension MAC Control frame

Upon receipt of a MA_CONTROL.request primitive containing the EXTENSION opcode from a MAC client, the MAC control sublayer calls the MAC sublayer MAC:MA_DATA.request service primitive with the following parameters:

a) The destination_address is set equal to the destination_address parameter of the MA_CONTROL.request primitive. This parameter is currently restricted to either the value 01-80-C2-00-00-01 or to the 48-bit individual address of the destination station.
b) The source_address is set equal to the 48-bit individual address of the station.
c) The length/type field (i.e., the first two octets) within the mac_service_data_unit parameter is set to the IEEE 802.3 MAC Control type value assigned in @@Subclause 31.4.1.3@@.
d) The remainder of the mac_service_data_unit is set equal to the concatenation of the Extension Opcode, the Organizationally Unique Identifier, and the Organization specific data.
e) The frame_check_sequence is omitted.

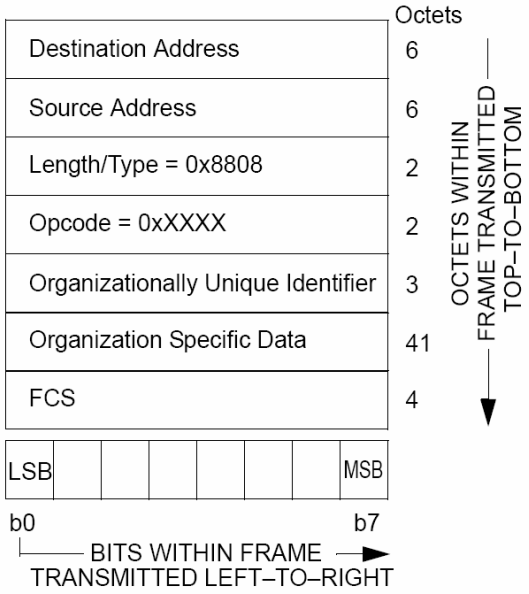


**Figure 31C–1—MAC Control EXTENSION Frame**

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## 31C.3 Receive operation

The opcode-independent MAC Control sublayer Receive state diagram accepts and parses valid frames received from the MAC sublayer. MAC Control sublayer entities that implement the EXTENSION operation shall implement the Receive state diagram specified in this subclause. The functions specified in this subclause are performed upon receipt of a valid Control frame containing the EXTENSION opcode and define the function called by the INITIATE MAC CONTROL FUNCTION state of @@Figure 31–4@@ (See @@Subclause 31.5.3@@).

### 31C.3.1 Receive state diagram (INITIATE MAC CONTROL FUNCTION) for EXTENSION operation

@@Figure 31C-2@@ depicts the INITIATE MAC CONTROL FUNCTION for the EXTENSION operation (See @@Subclause 31.5.3@@). Upon reception of EXTENSION frames, the frame is sent to the MAC CONTROL client.

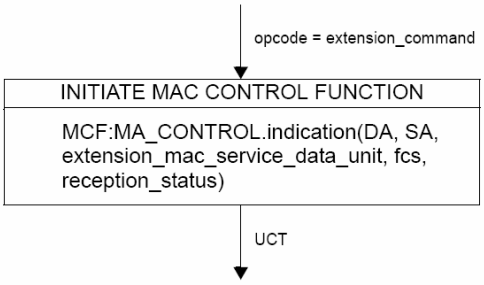


**Figure 31C–2—EXTENSION receive function**

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INTERNATIONAL TELECOMMUNICATION UNION

**TELECOMMUNICATION STANDARDIZATION SECTOR**

STUDY PERIOD 2005-2008

**COM 15 – LS 01 – E**

**English only**

**Original: English**

**Question(s):** 2/15

**LIAISON STATEMENT**

**Source:** ITU-T SG15

**Title:** Progress on G.984 and 802.3av standards systems interworking

**LIAISON STATEMENT**

**To** IEEE 802.3 Working group

**Approval:** Q2/15 Rapporteur meeting (Shanghai, 12 September 2008)

**For:** Information

**Deadline:** -


| | | |
|---|---|---|
| **Contact:** | Frank Effenberger<br>Huawei Technologies Co.,Ltd.<br>China | Tel: +1 (908) 670 3889<br>Fax:<br>Email: feffenberger@huawei.com |
| **Contact:** | David Faulkner<br>British Telecom<br>United Kingdom | Tel:<br>Fax:<br>Email: dave.faulkner@bt.com |


The membership of Q2/15 thanks 802.3 for the liaison statement sent from their July 2008 meeting. We are very encouraged by the concrete progress that has been made in the IEEE standards, both those that have been approved and those that are in progress, to support interworking with the relevant ITU standards. We agree that the OUI-based extensions to the Slow-Protocol, Ethernet-OAM, and MAC-control channels should be sufficient to enable the limited extensions of the sort we envision.

As mentioned before, the standardization work on the next generation PON systems will begin in 2009, and currently only preliminary studies are being made. However, Q2/15 can state our general guidelines regarding the IEEE extension mechanisms. It is our goal for our recommendations to specify or facilitate functions that are absent or underspecified in the IEEE standards; and not to override or replace functions that already exist. Q2/15 will be deliberate in the use of the IEEE extensions, and will communicate with the 802.3 working group while developing any such material. We believe that this fits the IEEE's intentions, and should promote the successful cooperation of our two groups.

In conclusion, we again are pleased with the progress on interworking between the IEEE and ITU PON standards. The members of Q2/15 look forward to a continued communication with 802.3 on this matter. Thank you for your attention and support.


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Such a copyright does not prevent the use of the material for its intended purpose, but it prevents the reproduction of all or part of it in a publication without the authorization of ITU.

# Annex 31C

(normative)

# MAC Control organization specific extension operation

## 31C.1 Organization specific extension description

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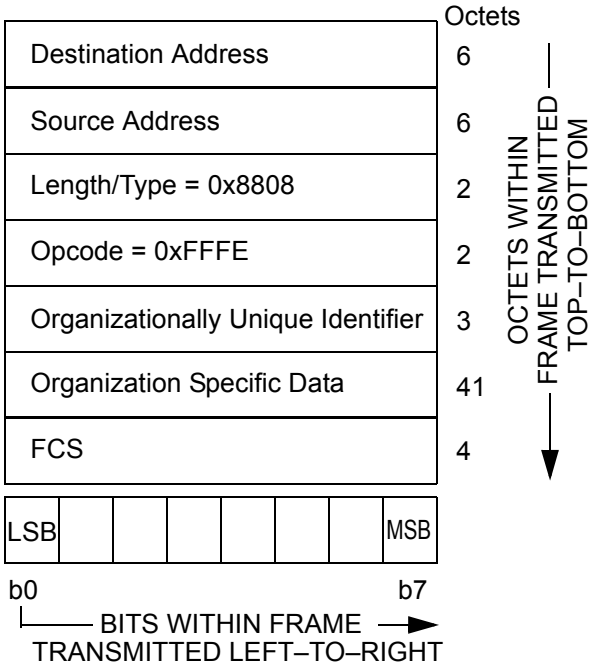


**Figure 31C–1—MAC Control EXTENSION Frame**

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### 31C.3.1 Receive state diagram (INITIATE MAC CONTROL FUNCTION) for EXTENSION operation

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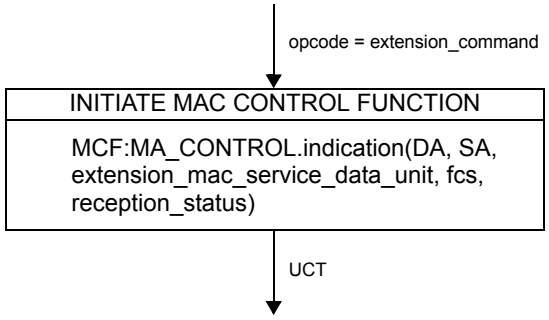


**Figure 31C–2—EXTENSION receive function**

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*Cl* **00** *SC* **0** *P* *L* # 2545

Remein, Duane Alcatel-Lucent

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

Editors note <clause>-2 style inconsistent.

*SuggestedRemedy*

Use Style from c75.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **00** *SC* **0** *P* *L* # 2546

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

"Per IEEE 2007 Style Manual Section 11.1 1st paragraph pg 19 .
""... Hanging paragraphs (i.e., paragraphs following a main clause head or main subhead) should not be used since reference to the text would be ambiguous. It may be necessary to include a subhead with the title ""General"" to avoid instances of hanging paragraphs, as shown in Figure 2.""
Our draft violates this in c76, 75A, 75B and 75C."

*SuggestedRemedy*

"Add ""General"" or ""Overview"" section to each of the following clauses:
c76, c75A, 75B and 75C"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **00** *SC* **0** *P* *L* # 2429

Anslow, Pete Nortel Networks

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

"Throughout this draft there are places where the readibility can be improved by small editorial modifications that do not change the meaning. The attached PDF file contains suggested changes indicated using the ""Text Edits"" tool. Because the editing marks can be difficult to locate, each one has the associated line number marked with yellow highlighter. Only pages with proposed edits are included.
attached file is 3av_1109_anslow_1.pdf"

*SuggestedRemedy*

Apply these suggested changes.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **00** *SC* **0** *P* *L* # 202420

DIAB, WAEL BROADCOM

*Comment Type* **TR** *Comment Status* **R** *[TO BE PROCESSED]*

The nomenclature used for the Gigabit technologies is inconsistant with EFM and 802.3.

*SuggestedRemedy*

Please change all references of 1GBASE to 1000BASE including in the 10/1GBASE so it is 10G/1000BASE

*Response* *Response Status* **U**

REJECT.
The nomenclature for all new PHYs was approved by the TF and presented to the 802.3 working group without significant opposition.
This is a new PMD name and does not need to use same units as 1000BASE PMDs.
10/1GBASE provides most concise name for the PMD capabilities.

Vote:
Approve this Response
For: 28
Against: 0
Abstain: 0

Added at November 2008 meeting:
The TF believes that it is important to have the same units to describe the speed in both directions.

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*Cl* **00** *SC* **0** *P* *L* # 202424

DIAB, WAEL BROADCOM

*Comment Type* **TR** *Comment Status* **R** *) BE PROCESSED], , GDMO*

The GDMO definitions sectionon is missing. I would request that we complete this prior to completing WG Ballot and launching SA Ballot

*SuggestedRemedy*

Include Annex 30A and 30B

*Response* *Response Status* **C**

REJECT.
According to Motion #4 from November 2007 802.3 WG meeting, GDMO should be defined by a separate project after Clause 30 is completed. Please refer http://www.ieee802.org/3/minutes/nov07/minutes_1107.pdf.

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2689

Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

Table too narrow. Frame won't take the table notes into account when sizing columns

*SuggestedRemedy*

Change the column widths by scaling to total 432 pt. Also widen Table 75-12, 75C-1, 75C-2, 75C-3, maybe others.

*Response* *Response Status* **C**

"REJECT.
[Moved to C00; was against 75.11.2, page 114, line 35]"

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2489

Doug Coleman Corning

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

G.675 SMF in the heading of Table 75-14 is incorrect.

*SuggestedRemedy*

Change to G.657 SMF

*Response* *Response Status* **C**

"ACCEPT.
[Changed from ""E"" to ""T""]
[Moved to C00; was against 75.11.3, page 114, line 27]
Clauses affected:
01, page 17, line 51
75B, page 137, line 9
75B, page 136, line 12
75, page 114, line 27
75, page 77, line 37"

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2463

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *[TO BE PROCESSED]*

"This comment refers to all occurences of 802.3-2005 in the draft:
page 117, line 4
page 311, line 34
page 311, line 41
All occurences of ""802.3-2005: need to be changed to ""802.3-2005""""

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

"ACCEPT.
Replace ""802.3-2005"" with ""802.3-2008""""

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2461

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *Ref 2 802.3 std*

"The titles of some of the clause contain text ""Changes to ANSI/IEEE Std. IEEE 802.3ay, Clause XX"", yet there is already an approved IEEE 802.3-2008 standard."

*SuggestedRemedy*

"In the titles of some of the clauses (1,30,45,56,66,67), change ""Changes to ANSI/IEEE Std. IEEE 802.3ay, Clause"" to ""Revisions to IEEE Std 802.3-2008, Clause""""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2460

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

The draft includes a number of subclause titles which were neither change nor include any changed text e.g. 1.2, 1.1 in Clause 1, 45.1, 45.2 in Clause 45 etc. Since there is no point to have them, I suggest to have the draft scrubbed against such superfluous subclauses and strike them out. DO NOT strike out subclause titles which contain modifitions e.g. 1.3, 1.4 or 1.5 in Clause 1.

*SuggestedRemedy*

See the suggested remedy above.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **00** *SC* **0** *P* **0** *L* **0** # 2466

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

This is a generic comment against the draft. There are several locations (e.g. page 266 line 25, page 267 line 5 etc. in the markup file), where there is a line break between the word Table and table number. This sometimes complicates the readability of the text.

*SuggestedRemedy*

Update the style of the Table and Figure cross references to include a non-breakable space between the keyword (Table/Figure) and the table/figure number. Changes to the template can be provided upon request.

*Response* *Response Status* **C**

ACCEPT.

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*Cl* **00** *SC* **0** *P* **1** *L* **1** # 2544

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

"The use of synonymous terms;
1 Gb/s and 1G-EPON,
1/10 Gb/s and 10/1G-EPON and asymmetric-rate,
10/10 Gb/s and 10/10G-EPON and symmetric-rate,
detracts from the readability of the document."

*SuggestedRemedy*

"Exclusively use the agreed naming conventions recommended in the resolution of comment #1981 from Seoul 2008 meeting; 1G-EPON, 10/1G-EPON and 10/10G-EPON."

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **00** *SC* **0** *P* **1** *L* **56** # 2682

Dawe, Piers Avago Technologies

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

As noted in D2.0 comments 1904 and 2172,
Page numbers are too low, won't print on some printers, and 2 lines lower than in published 802.3.

*SuggestedRemedy*

Remove (at least) one line-feed in each of left and right page footers

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
This was done in the clean copy, not sure why it didn't replicate into the marked-up version. Editors will investigate.

---

*Cl* **00** *SC* **0** *P* **19** *L* **1** # 2492

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

"Various errors in editing instructions of existing clauses.
The following keywords are incorrectly used; add, modify, create
Mark-up text (in clean file) is inconsistent with the style prescribed in Editors comments.
Applies to c30, 31A"

*SuggestedRemedy*

"In general:
Change ""add"" to ""Insert""
Change ""modify"" to ""Change"" or ""Insert"" as appropriate
Change ""create"" to ""Insert""

Use appropriate mark-up text in ""Changed "" paragraphs only (not inserted text)."

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **00** *SC* **31.2** *P* **417** *L* **25** # 2709

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *SED] - delayed until Annex31*

31.2 says 'MAC Control clients may include the Bridge Relay Entity, LLC, or other applications.' If there is a purpose to the proposed Annex 31 'organization specific' transmission channel, someone must have another client in mind. Refer to unsatisfied TRs.

*SuggestedRemedy*

State what the new MAC Control client is. Is it an OMCI? Give a reference to the appropriate ITU-T document(s).

*Response* *Response Status* **U**

"REJECT.
OMCI fits perfectly into the category of ""other applications"". No changes to the draft are believed to be needed.
[was c31, move to c00 as c31 is not in the draft]
[page number is against 802.3ay D2.3]"

*Cl* **00** *SC* **31.7** *P* **424** *L* **52** # 2706

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **R** *[TO BE PROCESSED]*

31.7 says 'Since implementation of the MAC Control sublayer is optional, a MAC Control client cannot assume the existence of a MAC Control sublayer entity in a peer DTE.' 64.1 says 'The Multipoint MAC Control functionality shall be implemented for subscriber access devices containing point-to-multipoint Physical Layer devices defined in Clause 60.' 77.1 says 'The Multipoint MAC Control functionality shall be implemented for subscriber access devices containing point-to-multipoint Physical Layer devices defined in Clause 75.' These statements are contradictory. Do not know what a 'subscriber access device' is exactly, and do not see how a non-subscriber access PON device (an OLT perhaps?) could avoid MPCP, unless there were just one ONU.

*SuggestedRemedy*

Change sentence in 31.7 to 'For certain PHY types [or port types, or Physical Layer types], certain MAC Control functions are required (see Clause 64 and Clause 77). Apart from this, implementation of the MAC Control sublayer is optional, and a MAC Control client cannot assume the existence of a MAC Control sublayer entity in a peer DTE.'
Change 'subscriber access devices' to 'PHY types' [or port types, or Physical Layer types].

*Response* *Response Status* **C**

REJECT.
Clause 31 is not open for commenting.
MAC Control client does not make this make this assumption but if it succeeds at the registration, then it knows that a DTE has a MAC Control sublayer.

[was c31, move to c00 as c31 is not in the draft]
[page number is against 802.3ay D2.3]

*Cl* **01** *SC* **1** *P* **17** *L* **12** # 2548

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

Spare colon
Page numbering should start on page 1 rather than 17

*SuggestedRemedy*

remove extraneous colon
Force page to start on pg 1.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove extraneous colon only.

*Cl* **01** *SC* **1** *P* **17** *L* **30** # 2552

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *see 2453*

Remove nice to have references:
1.1 Overview
1.2 Notation

*SuggestedRemedy*

remove

*Response* *Response Status* **C**

ACCEPT.

*Cl* **01** *SC* **1.3** *P* **17** *L* **43** # 2550

Remein, Duane Alcatel-Lucent

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

Rather than striking entire entry show update to date only

*SuggestedRemedy*

as per comment

*Response* *Response Status* **C**

ACCEPT.

*Cl* **01** *SC* **1.3** *P* **17** *L* **46** # 2549

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

Insert after ITU-T Recommendation G.652 appears to be incorrect style

*SuggestedRemedy*

update style

*Response* *Response Status* **C**

ACCEPT.

*Cl* **01** *SC* **1.3** *P* **17** *L* **53** # 2693

Dawe, Piers Avago Technologies

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

Per D2.0 comment 1933

*SuggestedRemedy*

Add to 1.3 Normative references, TIA-455-127-A-2006, FOTP-127-A-Basic Spectral Characterization of Laser Diodes.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **01** *SC* **1.4** *P* **18** *L* **20** # 2694

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **A** *BE PROCESSED], see 2673*

Specialist term used but not listed in the definitions

*SuggestedRemedy*

Organizationally Unique Identifier: A unique number that defines a manufacturer or other organization (see http://standards.ieee.org/regauth/index.html ).

*Response* *Response Status* **C**

ACCEPT.
see comment 2673

---

*Cl* **01** *SC* **1.4** *P* **18** *L* **23** # 2670

Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

pause_quantum: The unit of measurement for pause time specified in 31B.2.

*SuggestedRemedy*

"pause_quantum: The unit of measurement for pause time; 512 MAC bit times. (See IEEE Std 802.3, Annex 31B.)"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **01** *SC* **1.4** *P* **18** *L* **25** # 2671

Dawe, Piers Avago Technologies

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

Insert after 1.4.343 Tomlinson-Harashima precoder (THP)

*SuggestedRemedy*

Insert before 1.4.343 Tomlinson-Harashima precoder (THP)

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **01** *SC* **1.4** *P* **18** *L* **26** # 2736

Lynskey, Eric Teknovus

*Comment Type* **T** *Comment Status* **A** *BE PROCESSED], see 2669*

"The definition of time_quantum doesn't seem quite right and is not identical that that in Clause . In Clause 64 and 77, it starts off as ""The unit is used by all mechanisms..."""

*SuggestedRemedy*

Make consistent with both Clause 64 and 77 or reference one of the two locations, just as pause_quantum references Annex 31B.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2669

---

*Cl* **01** *SC* **1.4** *P* **18** *L* **26** # 2669

Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

re 'time_quantum: The unit of time_quantum used by all mechanisms synchronized to the advancement of the localTime variable for EPON. Each time_quantum is 16 ns.' Better to do the detail by reference, especially as localTime isn't in the definitions.

*SuggestedRemedy*

time_quantum: The unit of time used for synchronization of EPONs. Each time_quantum is 16 ns. (See IEEE Std 802.3, Clause 64 or Clause 72.)

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.

time_quantum: The unit of measurement for time related parameters specified in Multipoint MAC Control defined in Clauses 64 and Clause 77. The value of time_quantum is defined in 64.2.2.1.

*Cl* **01** *SC* **1.4** *P* **18** *L* **26** # 2471

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *BE PROCESSED], see 2669*

"Definition of ""time_quantum"" is very unclear. Additionally, it is not clear to me why definition of time_quantum is necessary in 1.4 altogether. What I would suggest is as follows:
(1) strike out definition of ""time_quantum"" in 1.4
(2) alter definition of term ""TQ"" in 1.5 to read as follows: ""TQ<tab>time_quantum as defined in 77.2.2.1""
Make sure the link is live."

*SuggestedRemedy*

"(1) strike out definition of ""time_quantum"" in 1.4
(2) alter definition of term ""TQ"" in 1.5 to read as follows: ""TQ<tab>time_quantum as defined in 77.2.2.1""
Make sure the link is live."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2669

*Cl* **01** *SC* **1.5** *P* **18** *L* **30** # 2551

Remein, Duane Alcatel-Lucent

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

"Align style of abbreviations listed with P802.3ay
Spare ""r"" - ""EPONrEPON"""

*SuggestedRemedy*

"Copy style ""AcrList,ac""
remove spare ""r"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **01** *SC* **1.5** *P* **18** *L* **32** # 2470

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

Definitions for 10/10G, 10/1G, 10G and 1G EPONs are hard to understand. Change as suggested below

*SuggestedRemedy*

"Change ""10/10G-EPONEPONs with 10 Gb/s symmetric-rate"" to ""10/10G-EPON<tab>EPON supporting 10 Gb/s downstream and 10 Gb/s upstream data rates""
Change ""10/1G-EPONEPONs with 10/1 Gb/s asymmetric-rate"" to ""10/1G-EPON<tab>EPON supporting 10 Gb/s downstream and 1 Gb/s upstream data rates""
Change ""10G-EPONrEPONs with 10/1 Gb/s asymmetric-rate and 10 Gb/s symmetric-rate"" to ""10G-EPON<tab>a broad term used to refer jointly to 10/10G-EPON and 10/1G-EPON, as specified in Clause 75, Clause 76 and Clause 77""
Change ""1G-EPON EPON with 1 Gb/s symmetric-rate"" to ""1G-EPON<tab>EPON supporting 1 Gb/s downstream and 1 Gb/s upstream data rates, as specified in Clause 60, Clause 64 and Clause 65."""

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2582

*Cl* **01** *SC* **1.5** *P* **18** *L* **32** # 2582

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

Instead of being added to list of abbreviations, the following items should be added to list of definitions:
10G/10G-EPON,
10G/1G-EPON,
10G-EPON,
1G-EPON

*SuggestedRemedy*

Add to definitions and expand the description to show which rates are used in which direction

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following definitions to section 1.4:

10G/10G-EPON - An EPON architecture operating at 10 Gb/s data rate in both downstream and upstream directions (symmetric rate).

10G/1G-EPON - An EPON architecture operating at 10 Gb/s data rate in downstream direction and at 1 Gb/s data rate in upstream direction (asymmetric rate).

10G-EPON - An EPON architecture operating at 10 Gb/s data rate in either one or both directions. This term collectively refers to 10G/10G-EPON and 10G/1G-EPON architectures (see definitions above).

1G-EPON - An EPON architecture operating at 1 Gb/s data rate in both downstream and upstream directions.

Remove existing abbrev. From section 1.5 (10G/10G-EPON, 10G/1G-EPON, 10G-EPON and 1G-EPON).

---

*Cl* **01** *SC* **1.5** *P* **18** *L* **32** # 2453

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"10/10GEPONEPONs is missing space or tab to read ""10/10GEPON<space/tab>EPONs"". The same for the ""10/1GEPONEPONs"", ""10G-EPONrEPONs""."

*SuggestedRemedy*

Insert a space or tab, accordingly, between the term and the term definition.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2582

---

*Cl* **01** *SC* **1.5** *P* **18** *L* **33** # 2734

Lynskey, Eric Teknovus

*Comment Type* **E** *Comment Status* **A** *See 2453*

EPONEPONs
EPONrEPONs

*SuggestedRemedy*

EPON EPONs on lines 33 and 35.
EPON EPONs on line 38.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment 2453

---

*Cl* **01** *SC* **1.5** *P* **18** *L* **34** # 2672

Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *BE PROCESSED], see 2544*

"re 'EPONs with 10 Gb/s symmetric-rate'; if symmetric-rate is used as a noun, there's no hyphen. But maybe better:"

*SuggestedRemedy*

10/10G-EPON EPON with MAC rates of 10 Gb/s downstream and upstream
10/1G-EPON EPON with MAC rates of 10 Gb/s downstream and 1 Gb/s upstream
10G-EPON EPON with MAC rates of 10 Gb/s downstream and 1 Gb/s or 10 Gb/s upstream
1G-EPON EPON with MAC rates of 1 Gb/s downstream and upstream
EPON Ethernet Passive Optical Network [not plural]

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2582

---

*Cl* **01** *SC* **1.5** *P* **18** *L* **42** # 2445

Anslow, Pete Nortel Networks

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

"Comment # 1596 was ""ACCEPT"" but has not been implemented.
DFB is not in the list of abbreviations"

*SuggestedRemedy*

"Add a new abbreviation in C01/1.5 to read as follows ""DFB Distributed Feedback Laser""."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **01** *SC* **1.5** *P* **18** *L* **43** # 2673

Dawe, Piers Avago Technologies

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

Abbreviation used but not listed

*SuggestedRemedy*

OUI Organizationally Unique Identifier

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **01** *SC* **75.8.1** *P* **106** *L* **35** # 2739

Lynskey, Eric Teknovus

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

This is the first time in this draft that WDM is used. It should be spelled out here or else added to 1.4.

*SuggestedRemedy*

Add WDM abbreviation to 1.4.

*Response* *Response Status* **C**

ACCEPT.
[changed from c75 to c01]

---

*Cl* **01** *SC* **75.8.2** *P* **106** *L* **42** # 2738

Lynskey, Eric Teknovus

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

This is the first time in this draft that TDMA is used. It should be spelled out here or else added to 1.4.

*SuggestedRemedy*

Add TDMA abbreviation to 1.4.

*Response* *Response Status* **C**

ACCEPT.
[changed from c75 to c01]

---

*Cl* **01** *SC* **75.9.1** *P* **107** *L* **10** # 2448

Anslow, Pete Nortel Networks

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

"Comment # 1656 was ""ACCEPT"" but has not been implemented.
G.650.1 is not in the list of references"

*SuggestedRemedy*

"Add a reference to 1.3 with the following contents ""ITU-T Recommendation G.650.1, 2004- Transmission media characteristics - Optical fibre cables"""

*Response* *Response Status* **C**

ACCEPT.
[was c75 moved to c01]

---

*Cl* **30** *SC* **30** *P* **18** *L* **12** # 2553

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"extraneous characters ""standard..:"""

*SuggestedRemedy*

"Remove extraneous characters ""standard."""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **30** *SC* **30** *P* **20** *L* **8** # 2554

Remein, Duane Alcatel-Lucent

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

"Clause 64 and Clause 77
s/b ""or""
Also line 19"

*SuggestedRemedy*

"Change to ""or"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.2.2.1** *P* **23** *L* **35** # 2676
Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *BE PROCESSED], see 2493*

Subclauses out of order

*SuggestedRemedy*

Put 30.2.2.1 before 30.3.2.1.2. Use a subclause heading.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2493

*Cl* **30** *SC* **30.2.3** *P* **23** *L* **46** # 2678
Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *see 2493*

Missing subclause heading

*SuggestedRemedy*

I believe Figure 30-3 is in 30.2.3.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment 2493

*Cl* **30** *SC* **30.2.3** *P* **24** *L* **51** # 2677
Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *Ref 2 802.3 std*

IEEE Std 802.1AX-200X

*SuggestedRemedy*

Do we have a date for this?

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #2461

*Cl* **30** *SC* **30.2.5** *P* **25** *L* **20** # 2697
Dawe, Piers Avago Technologies

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

GE?

*SuggestedRemedy*

I think it should be 'GET', three times.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.3.2.1.2** *P* **19** *L* **39** # 2427
Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

format of new entries does not match what is already in 30.3.2.1.2
Same for 30.3.2.1.3
Either change all entries in these to a new format or make your additions match what is already there.

*SuggestedRemedy*

change to:
30.3.2.1.2 aPhyType
Add new entries:
10GBASE-PR Clause 76 symmetric-rate 10 Gb/s 64B/66B
10/1GBASE-PRX Clause 76 asymmetric-rate 10 Gb/s 64B/66B with 1 Gb/s 8B/10B
30.3.2.1.3 aPhyTypeList
Add new entries:
10GBASE-PR Clause 76 symmetric-rate 10 Gb/s 64B/66B
10/1GBASE-PRX Clause 76 asymmetric-rate 10 Gb/s 64B/66B with 1 Gb/s 8B/10B

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.3.5.1.2** *P* **20** *L* **3** # 2735

Lynskey, Eric Teknovus

*Comment Type* **E** *Comment Status* **R** *'ROCESSED], Markup issues*

It's impossible to tell from the color and underlining what is actually being modified in the base standard unless the plain version of the draft is read side by side the marked up version. Since we aren't supposed to comment on that version, it makes it rather difficult to properly review this text.

*SuggestedRemedy*

Come up with an alternative editing scheme so that it is clear, in the draft we are commenting against, what changes are needed to the base document.

*Response* *Response Status* **C**

REJECT.
Editors are more than willing to accept suggestions but keep in mind that as the amount of manual intervention increase the likelyhood of an error increases. Therefore any suggestion must require minimal manual intervention on the part of the Editors.
Note: Editors should not be overburdened with correcting problems caused by the tool.

---

*Cl* **30** *SC* **30.3.5.1.4** *P* **20** *L* **28** # 2454

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"At the end of the block describing aMPCPLinkID, there is missing "", where appropriate"" text. All the other descriptions added in 30.3.5.1 seem to have this phrase."

*SuggestedRemedy*

"Add "", where appropriate"" after ""A read-only value that identifies the Logical Link identity (LLID) associated with the MAC port as specified in 65.1.3.2.2 or 76.1.6.1.3.2"""

*Response* *Response Status* **C**

"ACCEPT.
Change to: "". specified in 65.1.3.2.2 or 76.1.6.1.3.2 as approproate"""

---

*Cl* **30** *SC* **30.3.7.1.2** *P* **20** *L* **34** # 2555

Remein, Duane Alcatel-Lucent

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

"that indicates that mode of operation
s/b
""that indicates the mode of operation"""

*SuggestedRemedy*

"Show ""that"" in strikeout, add ""the"" in underlined"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **30** *SC* **30.3.7.1.2** *P* **20** *L* **35** # 2431

Anslow, Pete Nortel Networks

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

"In clauses 30.3.7.1.2 through 30.3.7.1.8 the definitions come from clause 65 or clause 76 depending on the EPON type. The wording used for this choice is ""65.1.3.x.x and 76.1.6.1.x.x, where appropriate""
Since this is a choice, it would be better worded as ""65.1.3.x.x or 76.1.6.1.x.x, as appropriate"""

*SuggestedRemedy*

"change ""65.1.3.x.x and 76.1.6.1.x.x, where appropriate""
to ""65.1.3.x.x or 76.1.6.1.x.x, as appropriate"" in 15 places"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **30** *SC* **30.3.7.1.6** *P* **21** *L* **8** # 2556

Remein, Duane Alcatel-Lucent

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"Difficult to follow and erroneous definition:
""A count of frames received that contain a valid SLD field in an ONU, as defined in 65.1.3.3.1 and 76.1.6.1.3.1, where appropriate, passes the CRC-8 check, as defined in 65.1.3.3.3 and 76.1.6.1.3.3, where appropriate, and the frame meets the rule for acceptance defined in 65.1.3.3.2 and 76.1.6.1.3.2, where appropriate.;""
Same comment and suggested remedy for 30.3.7.1.7 aOLTPONcastLLID"

*SuggestedRemedy*

"Change to:
A count of frames received that; 1)contain a valid SLD field in an ONU, 2)meet the rules for frame acceptance, and 3)pass the CRC-8 check. The SLD is defined in 65.1.3.3.1 or 76.1.6.1.3.1, as appropriate. The rules for LLID acceptance are defined in 65.1.3.3.2 or 76.1.6.1.3.2, as appropriate. The CRC-8 check is defined in 65.1.3.3.3 or 76.1.6.1.3.3, as appropriate.;
use text mark-up as appropriate."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change to:
""A count of frames received that: 1) contain a valid SLD field in an ONU, 2) meet the rules for frame acceptance, and 3) pass the CRC-8 check. The SLD is defined in 65.1.3.3.1 or 76.1.6.1.3.1, as appropriate. The rules for LLID acceptance are defined in 65.1.3.3.2 or 76.1.6.1.3.2, as appropriate. The CRC-8 check is defined in 65.1.3.3.3 or 76.1.6.1.3.3, as appropriate.;""
use text mark-up as appropriate."

*Cl* **30** *SC* **30.3.7.1.8** *P* **21** *L* **25** # 2557

Remein, Duane Alcatel-Lucent

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"Incorrect definition:
""A count of frames received that contain a valid SLD field in an ONU, as defined in 65.1.3.3.1 and 76.1.6.1.3.1, where appropriate, passes the CRC-8 check, as defined in 65.1.3.3.3 and 76.1.6.1.3.3, where appropriate, and the frame meets the rule for acceptance defined in 65.1.3.3.2 and 76.1.6.1.3.2, where appropriate.;"""

*SuggestedRemedy*

"Change to:
""A count of frames received that contain a valid SLD field in an OLT, and pass the CRC-8 check, but are discarded due to the LLID check. The SLD is defined in 65.1.3.3.1 or 76.1.6.1.3.1, as appropriate. The CRC-8 check is defined in 65.1.3.3.3 or 76.1.6.1.3.3, as appropriate. The LLID check is defined in 65.1.3.3.2 or 76.1.6.1.3.2?, as appropriate.;"

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change to:
""A count of frames received that contain a valid SLD field in an OLT, and pass the CRC-8 check, but are discarded due to the LLID check. The SLD is defined in 65.1.3.3.1 or 76.1.6.1.3.1, as appropriate. The CRC-8 check is defined in 65.1.3.3.3 or 76.1.6.1.3.3, as appropriate. The LLID check is defined in 65.1.3.3.2 or 76.1.6.1.3.2, as appropriate.;"""

*Cl* **30** *SC* **30.3.8** *P* **23** *L* **5** # 2675

Dawe, Piers Avago Technologies

*Comment Type* **E** *Comment Status* **A** *BE PROCESSED], see 2493*

Subclauses out of order

*SuggestedRemedy*

Put 30.3.8 before 30.5.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2493

*Cl* **30** *SC* **30.3.8** *P* **23** *L* **9** # 2494

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

behaviours

*SuggestedRemedy*

"drop the ""s""; s/b ""behavior"""

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **30** *SC* **30.3.8.1** *P* **23** *L* **15** # 2674

Dawe, Piers Avago Technologies

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

nonresetable

*SuggestedRemedy*

nonresettable (problem with base document)

*Response* *Response Status* **C**

"ACCEPT.
Add to c30
""30.3.1.1.2 aFramesTransmittedOK
Change first sentance under APPROPRIATE SYNTAX: to read as follows
Generalized nonresettable counter. ""
Use proper mark-up syntax for adding the second ""t"""

*Cl* **30** *SC* **30.3.8.2** *P* **23** *L* **35** # 2493

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A** *[TO BE PROCESSED]*

Editors Instruction for 30.2.2.1 out of place.
Editors Instruction followed by another editors instruction.
Table 30-1c and Figure 30-3 incorrectly positioned in draft.

*SuggestedRemedy*

"1) Add subclause heading ""30.2.2.1 Text description of managed objects"" below ""30. Management"". Move Editors Instruction for 30.2.2.1 and changed text under added heading to be consistent with other entries in existing clauses.

2) Add subclause heading ""30.2.5 Capabilities"" below text from step 1 above. Move Editors Instruction ""Modify Table 30-1c, placing a new block ..."" and changed table to below added heading 30.2.5. Tie Editors Instruction to changed table in framemaker.

3) Move Editors Instructions ""Modify Figure 30-3 as presented below:"" and Figure to position below step 2 above."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.3.8.2** *P* **23** *L* **39** # 2696

Dawe, Piers Avago Technologies

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

instance of the MAC Control function

*SuggestedRemedy*

instance of the MAC Control EXTENSION function

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.5** *P* **21** *L* **31** # 2491

Remein, Duane Alcatel-Lucent

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

"Remove helpful placeholder ""30.5 Layer management for medium attachment units (MAUs)"" so as to be consistent."

*SuggestedRemedy*

as per comment

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.5.1.1.16** *P* **22** *L* **52** # 2695

Dawe, Piers Avago Technologies

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

Increment the counter by one for each received block that is corrected by the FEC function in the PHY.

*SuggestedRemedy*

Increment the counter by one for each FEC block that is determined to be uncorrectable by the FEC function in the PHY.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **30** *SC* **30.7.1.2** *P* **20** *L* **34** # 2561

Kramer, Glen Teknovus, Inc.

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

"Missing hyphen in ""read only"". Compare to lines 7, 18, 27 on the same page."

*SuggestedRemedy*

Add hyphen.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **31A** *SC* **31A** *P* **17** *L* **1** # 201919

Dawe, Piers Avago

*Comment Type* **TR** *Comment Status* **R** *E PROCESSED], PAR scope*

The proposed 31A and 31C have nothing to do with the objectives

*SuggestedRemedy*

Remove the material related to MAC Control EXTENSION to a separate draft. Prepare objective(s) for it, or decide to abandon it, or let 802.3 or another study group or task force address the question.

*Response* *Response Status* **U**

"REJECT.
802.3 considered it and chartered 802.3av TF to implement it as ""a service to humanity"". This mechanism was added by directive of the 802.3 WG - please see motion number #3 in minutes_0708.pdf."

*Cl* **31A** *SC* **31A** *P* **17** *L* **30** # 201923

Dawe, Piers Avago

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

Organizationally-Unique Identifier that determines the format and semantics of the Value field and its subfields, if any are defined.: this seems far too open-ended.

*SuggestedRemedy*

"Either remove the OUI field and change from ""Organization-Specific Extension"" to something specific for ITU-T style management, or whatever is really wanted. Or restrict the possible OUIs to one, the ITU-T OUI. Restrict the scope as appropriate, e.g. to PON and DSL ports only."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2711 and #2708.

---

*Cl* **31A** *SC* **31A** *P* **23** *L* **28** # 2679

Dawe, Piers Avago Technologies

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

Hexadecimal

*SuggestedRemedy*

hexadecimal

*Response* *Response Status* **C**

ACCEPT.
[page and line number were changed, was against clean version of D2.1, pg 27, ln 41]

---

*Cl* **31A** *SC* **31A** *P* **27** *L* **48** # 2495

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

Changes to Tables 31A-1, 31A-3, 31A-5 and 31A-6 are reasonably small and should be shown as change instructions rather than replace instructions. In most cases this can be accomplished by changing the added font to underline.

*SuggestedRemedy*

As per comment.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Agreed on using editorial comment for Tables 31A-3, 31A-5 and 31A-6. Table 31A-1 due to addition of Clause 77 reference will remain as is in D2.1

---

*Cl* **31A** *SC* **31A** *P* **29** *L* **24** # 2562

Kramer, Glen Teknovus, Inc.

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

Table 31A-5 has a thick line in the middle of the table

*SuggestedRemedy*

make all internal lines the same width

*Response* *Response Status* **C**

ACCEPT.
See comment #2495 for resolution.

---

*Cl* **31A** *SC* **31A.1** *P* **17** *L* **12** # 201915

Dawe, Piers Avago

*Comment Type* **TR** *Comment Status* **R** *[TO BE PROCESSED]*

"31.1 Overview says ""Non-realtime, or quasistatic control (e.g., configuration of MAC operational parameters) is provided by Layer Management."" The new 31A and 31C appears to be an attempt to overturn that, and not restricted to PON."

*SuggestedRemedy*

Needs proper debate in 802.3. If we agree that we want to do go ahead, the sentence quoted would need changing.

*Response* *Response Status* **U**

"REJECT.
[Subclause number was fixed]
[Page number was fixed]
Annex 31A and 31C are not an attempt to overturn that ""Non-realtime, or quasistatic control"". It will be used for real-time control.
This mechanism was added by directive of the 802.3 WG - please see motion number #3 in minutes_0708.pdf."

*Cl* **31C** *SC* **31.5.3.4** *P* **32** *L* **32** # 2699

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

31C.3 page 32 line 32 says 'The functions specified in this subclause ... define the function called by the INITIATE MAC CONTROL FUNCTION state of Figure 31-4 (See 31.5.3).'
Figure 31-4 INITIATE MAC CONTROL FUNCTION says 'Perform opcode-specific operation, See note.'
NOTE says 'The opcode-specific operation (per Annex 31A and Annex 31B, and Clause 64)'
If 31C has any purpose, one could extend the note to include Annex 31C. Also, the note appears to be a necessary part of the definition of MAC Control, and should be normative, not an informative NOTE. Further, putting long NOTEs inside figures is bad.

*SuggestedRemedy*

Move the NOTE to regular text, mention Annex 31C in it.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[changed page, line and subclause numbers ; was c31, move to c31C as c31 is not in the draft]
[page number is against 802.3ay D2.3, page 424, line 20]

Clause 31 was defined in such a way that it would not require any changes when new opcode-specific functions are added. Opcode-specific functions are summarized in Annex 31A for ease of reference. Adding references to clauses containing opcode-specific functions to Clause 31 is a bad idea, as this clause will need to be opened for every new opcode-specific function.

Since Clause 31 is currently not open for our project, a maintenance request will be submitted to remove references to clauses containing opcode-specific functions from Clause 31."

*Cl* **31C** *SC* **31C.1** *P* **31** *L* **21** # 2708

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

Text says 'The extension operation is used to provide a standardized means for organizations to define their own MAC Control protocols outside the scope of this standard.'
This is far wider than the ITU-T liaison letter asked for. D2.0 comment 1923 and others apply.

*SuggestedRemedy*

Find out/decide what the EXTENSION communication subsystem is for, and write it down. Is it to allow _remote_ management (of what? the whole port? of the whole DTE?), using OMCI? some other ITU-T thing? Phone company proprietary protocol(s)?
Change to 'The extension operation is used to provide a standardized means for other standards development organizations, in particular ITU-T, to define their own MAC Control protocols outside the scope of this standard. The first application of this is to enable PLOAM messages related to protection switching, low-level performance monitoring, and management channel set-up (see ITU-T G.G.984 and G.983 (?).'. [Or whatever the intention actually is.]

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change the offending text to
""The extension operation is used to provide a standardized means for other standards development organizations, in particular ITU-T, to define their own MAC Control protocols outside the scope of this standard. The first application of this is to enable Physical Layer Operations, Administration, and Management (PLOAM) messages related to protection switching, low-level performance monitoring, and management channel set-up (see ITU-T G.984 and ITU-T G.983).""""

*Cl* **31C** *SC* **31C.2** *P* **31** *L* **40** # 2711

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

0708_ITU_SG15_to_802_3_LS01.pdf asked for the MPCP message channel to be augmented to be able to carry PLOAM messages related to protection switching, low-level performance monitoring, and management channel set-up. What we have in this draft allows anyone with an OUI (even a stolen one) to transmit anything, for any purpose. Which is too wide. Note unsatisfied D2.0 comment 1923.

*SuggestedRemedy*

Change bullet d from:
The remainder of the mac_service_data_unit is set equal to the concatenation of the Extension Opcode, the Organizationally Unique Identifier, and the Organization specific data.
to:
d) The remainder of the mac_service_data_unit is set equal to the concatenation of the Extension Opcode, ITU-T's Organizationally Unique Identifier, and the organization-specific data. See ITU-T G.984 and G.983 (?) for further information on the organization-specific data.
and change the footnote to:
The OUI for ITU-T is 00-19-A7.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change bullet d) to
""The remainder of the mac_service_data_unit is set to the concatenation of the Extension Opcode, ITU-T's Organizationally Unique Identifier (00-19-A7), and the organization-specific data. """

*Cl* **31C** *SC* **31C.3.1** *P* **33** *L* **6** # 2710

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *[TO BE PROCESSED]*

Draft says 'Upon reception of EXTENSION frames, the frame is sent
to the MAC CONTROL client.' 31.2 says 'MAC Control clients may include the Bridge Relay Entity, LLC, or other applications.' I don't believe the intended recipient is Bridge Relay Entity, LLC, or the other applications imagined in the base standard. Note unsatisfied TRs in this area.

*SuggestedRemedy*

Change 'the MAC CONTROL client' to wherever you want these frames to go. One could call it 'the MAC Control organization specific extension client' and add another sentence to 31C.1 'The intended client for the MAC Control organization specific extension is an OMCI? remote management subsystem (see ITU-T G.984 and G.983?).'

*Response* *Response Status* **U**

"REJECT.
OMCI fits perfectly into the category of ""other applications"". No changes to the draft are believed to be needed."

*Cl* **45** *SC* **45** *P* **37** *L* **1** # 2456

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **R** *Markup issues*

In Clause 45, some of the subclause numbers do not match between the plain and markup versions e.g. 45.2.3.1 in mark up is 45.2.3.33 in the plain format. Probably they were not updated correctly during the generation of markup files.

*SuggestedRemedy*

In the future, pay closer attention to what Frame is doing during generation of mark up files

*Response* *Response Status* **C**

REJECT.
See comment 2735

*Cl* **45** *SC* **45** *P* **37** *L* **27** # 2497

Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

"Various errors in editing instructions or existing clauses.
The following keywords are incorrectly used; add, modify, create
Mark-up text (in clean file) is inconsistent with the style prescribed in Editors comments."

*SuggestedRemedy*

"Pg 31 ln 35 (of clean file)
Change ""modify"" to ""Change""

Pg 42 ln 22, ln 33 & Pg 43 ln 1 (of clean file)
Change ""add"" to ""Insert"" (change text from underline to plain)"

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.1** *P* **37** *L* **38** # 2496

Remein, Duane Alcatel-Lucent

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

"Errors in table 45-3
Title: ""Table 45-3-PMA/PMD speed ability register bit definitions""
Incorrect change markings"

*SuggestedRemedy*

"Change to:
Title: ""Table 45-3-PMA/PMD registers""
Show ""1.12, 1.13 Reserved"" is strike-out text."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.1** *P* **37** *L* **41** # 2700

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **R** *[TO BE PROCESSED]*

With three projects modifying Clause 45 at the same time, it is easy for competing changes to be proposed and experience tells us that reconciling this is very time consuming. It helps if each draft acknowledges what the others are doing: see P802.3ba D1.0 Table 45-3 '1.12 Reserved (802.3av)'. This project can return the favour and avoid clashes.

*SuggestedRemedy*

Identify registers which other projects are proposing to use, e.g. '1.13 Reserved (802.3ba)' or '1.13 Reserved for P802.3ba'
Also register bits 1.4.8, 1.4.9, entries in 1.7.4:0 (in Table 45-7), 1.11.15

*Response* *Response Status* **C**

REJECT.
It is not clear at this time what and how many registers will be needed by 802.3ba. The effort should be coordinated by 802.3.

---

*Cl* **45** *SC* **45.2.1** *P* **37** *L* **41** # 2683

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

P802.3ba is providing a very welcome third column in Table 45-3, called 'Clause', with clickable entries giving the subclause for each register.

*SuggestedRemedy*

Please do the same.

*Response* *Response Status* **C**

"ACCEPT.
[Changed from ""E"" to ""T""]"

---

*Cl* **45** *SC* **45.2.1.1.4** *P* **37** *L* **52** # 2498

Remein, Duane Alcatel-Lucent

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

"Error in change text for existing text ""except 2BASE-TL, 10PASS-TS,""""

*SuggestedRemedy*

"Change to ""except 2BASE-TL, and 10PASS-TS,""
1st comma s/b underlined
""and"" s/b in strike-out."

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **45** *SC* **45.2.1.10** *P* **38** *L* **29** # 2499

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *See 2466*

"Change instruction ""Change Table 45-7 as shown below"" is disconnected from table."

*SuggestedRemedy*

"Tie change instruction ""Change Table 45-7 as shown below"" to table in Framemaker."

*Response* *Response Status* **C**

ACCEPT.
See comment 2466

---

*Cl* **45** *SC* **45.2.1.6** *P* **38** *L* **29** # 2684

Dawe, Piers Avago Technologies

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

Missing subclause heading

*SuggestedRemedy*

Insert the heading for 45.2.1.6, which contains Table 45-7. Check for any other missing headings.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Insert the heading for 45.2.1.6

---

*Cl* **45** *SC* **45.2.1.6** *P* **39** *L* **9** # 2685

Dawe, Piers Avago Technologies

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

Pre-existing entries all say '... PMA/PMD type'. As the table title is PMA/PMD control 2 register bit definitions and the entries are grouped as 'PMA/PMD type selection' this seems superfluous, but one should be consistent.

*SuggestedRemedy*

To remove the clutter, strike out 'PMA/PMD type selection' from all the pre-existing entries.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
In Table 45-7 under ""Description"" column remove all text ""type""
For example change:
""0 1 1 1 1 = 10BASE-T PMA/PMD type""
to read:
""0 1 1 1 1 = 10BASE-T PMA/PMD""""

*Cl* **45** *SC* **45.2.1.6.1** *P* **38** *L* **28** # 2698

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **R** *[TO BE PROCESSED]*

Need to update 45.2.1.6.1 PMA/PMD type selection (1.7.3:0): see 802.3ba.

*SuggestedRemedy*

Show revision of
45.2.1.6.1 PMA/PMD type selection (1.7.3:0)
The PMA/PMD type of the PMA/PMD shall be selected using bits 3 through 0.
to
45.2.1.6.1 PMA/PMD type selection (1.7.4:0)
The PMA/PMD type of the PMA/PMD shall be selected using bits 4 to 0.

*Response* *Response Status* **C**

REJECT.
It is not clear at this time what and how many registers will be needed by 802.3ba. The effort should be coordinated by 802.3.

---

*Cl* **45** *SC* **45.2.3** *P* **43** *L* **10** # 2580

Kramer, Glen Teknovus, Inc.

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

In table 45-82, register names do not correspond to actual names

*SuggestedRemedy*

"replace ""FEC corrected codewords"" with ""corrected FEC codewords""
replace ""FEC uncorrected codewords"" with ""uncorrected FEC codewords"""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **45** *SC* **45.2.3** *P* **43** *L* **8** # 2686

Dawe, Piers Avago Technologies

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

Table too narrow for the new contents

*SuggestedRemedy*

Resize column widths to contents

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **45** *SC* **45.2.3.1** *P* **48** *L* **27** # 2475

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *ROCESSED], Markup issues*

"(1) Subclause 45.2.3.1 is subcluase 45.2.3.33 in the clean version (make sure automated Frame numbering is controlled in mark-up versions).
(2) Title of Table 45-111 does not match register name
(3) Title of subclause 45.2.3.1 should not include words ""Clause 76"" (per comment #1575, which was approved)"

*SuggestedRemedy*

"(1) Pay more attention to automated subclause numbering in the markup versions
(2) Change title of subclause 45.2.3.1 (should be 45.2.3.33) to read ""10GBASE-PR and 10/1GBASE-PRX BER Monitor Control register"" (per comment #1575, which was approved)
(3) Change title of table 45-111 to read ""10GBASE-PR and 10/1GBASE-PRX BER Monitor Control register bit definitions"""

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement items (2) and (3).

---

*Cl* **45** *SC* **45.2.3.1** *P* **48** *L* **27** # 2437

Anslow, Pete Nortel Networks

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

"This is subclause 45.2.3.33 in the clean version.
In accordance with comment # 1575 this clause title should not include ""Clause 76"""

*SuggestedRemedy*

"Change clause title to ""10GBASE-PR and 10/1GBASE-PRX BER Monitor Control register (Register 3.80)"""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **45** *SC* **45.2.3.1** *P* **48** *L* **35** # 2438

Anslow, Pete Nortel Networks

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

This is subclause 45.2.3.33 in the clean version.
The title of Table 45-111 does not match the register name

*SuggestedRemedy*

"Change table title to ""10GBASE-PR and 10/1GBASE-PRX BER monitor control register bit definitions"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.2** *P* **49** *L* **1** # 2439

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

This is subclause 45.2.3.34 in the clean version.
The title of the clause does not match the register name in the text or the title of Table 45-112. These are:
10GBASE-PR and 10/1GBASE-PRX BER Monitor Status (Register 3.81)
10GBASE-PR and 10/1GBASE-PRX BER Status Register
PCS status 1 register

*SuggestedRemedy*

"Change text and table title to match ""10GBASE-PR and 10/1GBASE-PRX BER Monitor Status Register"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.2** *P* **49** *L* **10** # 2476

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

(1) Title of table 45-112 does not match register name (see title of subclause 45.2.3.2)
(2) Subclause 45.2.3.2 is subcluase 45.2.3.34 in the clean version (make sure automated Frame numbering is controlled in mark-up versions).

*SuggestedRemedy*

"(1) Pay more attention to automated subclause numbering in the markup versions
(2) Change title of table 45-112 to read ""10GBASE-PR and 10/1GBASE-PRX BER Monitor Control Status bit definitions"""

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2439

*Cl* **45** *SC* **45.2.3.2** *P* **49** *L* **16** # 2435

Anslow, Pete Nortel Networks

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

This is subclause 45.2.3.34 in the clean version.
In Table 45-112 bit 3.81.1 is a latching bit that indicates that the receiver detected a BER greater than the configurable threshold. Why is it shown as Non Roll-over? It is not a counter.

*SuggestedRemedy*

change bit 3.81.1 to RO

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Remove ""NR"", add ""LH"" add to footnote "", LH = Latching high"""

*Cl* **45** *SC* **45.2.3.2.1** *P* **49** *L* **47** # 2455

Hajduczenia, Marek ZTE Corporation

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

"The text reads ""(...) a BER greater than the configurable threshold. When read as a zero, bit 3.81.0 indicates that the receiver is detecting a BER lower than the configurable threshold. (...)"". In 45.2.3.2.2 we use additiionally terms line (high BER state) and (low BER state) accordingly."

*SuggestedRemedy*

"Change the indicated text to read ""(...) a BER greater than the configurable threshold (high BER state). When read as a zero, bit 3.81.0 indicates that the receiver is detecting a BER lower than the configurable threshold (low BER state). (...)"

*Response* *Response Status* **C**

"ACCEPT.
Insert "" (high BER state)"" and ""(low BER state)"" as suggested."

*Cl* **45** *SC* **45.2.3.29** *P* **44** *L* **26** # 2680

Dawe, Piers Avago Technologies

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

Writes ignored

*SuggestedRemedy*

writes ignored
Also the third column should be wider and second narrower with the table full width.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.29** *P* **44** *L* **26** # 2701

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **R** *SSED], FEC Correction Mode*

I believe that a lot of the power taken by FEC goes on error correction (the stage beyond error detection). A receiver that is happy with its received BER can switch the correction off, with no need for handshaking with the transmitter. This still gives excellent error detection, and remains compatible with PCS error indication.

*SuggestedRemedy*

Add another register bit in Table 45-107,
3.74.2
FEC error correction disable ability
A read of 1 in this bit indicates that the 10 Gb/s FEC decoder component of the 10/1GBASE-PRX or 10GBASE-PR PCS is able to operate while detecting but not correcting received errors. In a 10/1GBASE-PRX OLT, this bit is undefined.
RO
Insert new 45.2.3.29.1 10 Gb/s FEC error correction disable ability (3.174.3)
When read as a one, bit 3.74.2 indicates that the 10GBASE-PR 10 Gb/s FEC decoder is able to operate while detecting but not correcting received errors (see 76.?.?.?). When read as a zero, the 10GBASE-PR FEC decoder is not able to operate while detecting but not correcting received errors.
Add another register bit in Table 45-108,
3.75.2
FEC error correction disable
A write of 1 to this bit configures the 10 Gb/s FEC decoder to operate while detecting but not correcting received errors. In a 10/1GBASE-PRX OLT, this bit is ignored.
R/W
Insert new 45.2.3.30.1 10 Gb/s FEC error correction disable (3.175.3)
This bit instructs the 10 Gb/s FEC decoder component of the 10GBASE-PR and 10/1GBASE-PRX PCS to operate while detecting but not correcting received errors (see 76.?.?.?)
When bit 3.74.2 written as a one, the 10GBASE-PR 10 Gb/s FEC decoder shall operate while detecting but not correcting received errors (see 76.2.3.3). When bit 3.74.2 is written as a zero, the 10GBASE-PR FEC decoder shall correct as well as detect but received errors according to 76.2.3.3.
The default value of bit 3.74.2 is zero.

*Response* *Response Status* **C**

REJECT.
See comment #2705 for rationale.

*Cl* **45** *SC* **45.2.3.29** *P* **44** *L* **28** # 2702

Dawe, Piers Avago Technologies

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

A read of 1 in this bit indicates whether ...

*SuggestedRemedy*

A read of 1 in this bit indicates that ...

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.29** *P* **44** *L* **34** # 2432

Anslow, Pete Nortel Networks

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

"In Table 45-107 bit 3.74.0 says ""This bit always reads as one, to indicate that the 10/1GBASE-PRX or 10GBASE-PR PCS supports 10 Gb/s FEC"". This is only true for equipment implementing the 10/1GBASE-PRX or 10GBASE-PR PCS"

*SuggestedRemedy*

"change to ""This bit indicates that the PCS supports the 10/1GBASE-PRX or 10GBASE-PR 10 Gb/s FEC (mandatory for 10/1GBASE-PRX or 10GBASE-PR)"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.29.1** *P* **44** *L* **40** # 2688

Dawe, Piers Avago Technologies

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

MDIO bit descriptions are ordered down the tables, even if that means counting backwards

*SuggestedRemedy*

Swap 45.2.3.29.1 and 45.2.3.29.2

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.29.1** *P* **44** *L* **45** # 2433

Anslow, Pete Nortel Networks

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

"This says ""The bit always reads as one."" which is not true for equipment that does not support the 10/1GBASE-PRX or 10GBASE-PR PCS"

*SuggestedRemedy*

"change to ""The bit always reads as one for 10/1GBASE-PRX or 10GBASE-PR."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.30** *P* **45** *L* **31** # 2434

Anslow, Pete Nortel Networks

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

"In Table 45-108 bit 3.75.0 says ""Always reads as 1 since 10 Gb/s FEC is always enabled"". This is only true for equipment implementing the 10/1GBASE-PRX or 10GBASE-PR PCS"

*SuggestedRemedy*

"change to ""Always reads as 1 for 10/1GBASE-PRX or 10GBASE-PR since 10 Gb/s FEC is always enabled"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.30.1** *P* **45** *L* **49** # 2563

Kramer, Glen Teknovus, Inc.

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

"our convention is to use ""66-bit"" instead of ""66B"""

*SuggestedRemedy*

"replace ""66B"" with ""66-bit"" on lines 49 and 53."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.3.31** *P* **46** *L* **47** # 2681

Dawe, Piers Avago Technologies

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

Multi-Word

*SuggestedRemedy*

Multi-word

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **45.2.31** *P* **46** *L* **40** # 2501

Remein, Duane Alcatel-Lucent

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

"Table 45-109 should indicate ""NR"" for this counter
Table 45-110 should indicate ""NR"" for this counter"

*SuggestedRemedy*

"For Tables 45-109 & 45-110:
Change last column to read: ""RO, MW, NR""
Add "", NR = Non Roll-over"" to footnote."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **45** *SC* **485** *P* **44** *L* **50** # 2500

Remein, Duane Alcatel-Lucent

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

"The statement ""When read as a one, this bit indicates that the 10 Gb/s FEC decoder is able to indicate decoding errors to the"" is misleading as not all 10 Gb/s FEC decoders may use this bit."

*SuggestedRemedy*

"Change to read ""When ... FEC decoder component of the 10GBASE-PR or 10/1GBASE-PRX PCS is ... errors to the""
(phrasing from 45.2.3.30.1)"

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56** *P* **53** *L* **13** # 2502

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

Explain meaning of forest green text

*SuggestedRemedy*

per comment

*Response* *Response Status* **C**

ACCEPT.
The meaning was explained but the commenter fled the room.

---

*Cl* **56** *SC* **56.1** *P* **34** *L* **19** # 202418

DIAB, WAEL BROADCOM

*Comment Type* **ER** *Comment Status* **A** *E PROCESSED], , See#2274*

Two different styles are used to reference the 1Gb/s and 10G EPON systems. Please make consistant

*SuggestedRemedy*

Change 10G-EPON to 10Gb/s EPON

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

ACCEPT IN PRINCIPLE.
Draft is revised and consistent notation is used per comment #971 from March 2008 (see 3av_D2_1_markup.pdf, Clause 1.5).

---

*Cl* **56** *SC* **56.1** *P* **56** *L* **1** # 2481

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

Figure 56-2 is incorrect. It shows XGMII interface in 1G-EPON stack.

*SuggestedRemedy*

"(1) Change XGMII to GMII in both ONU and OLT stack
(2) remove XGMII from the list of acronyms under the figure
Additionally, insert a line break after ""EFM:"" in the title, to make the title look similar to in figure 56-4 and 56-5."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
(1) Change XGMII to GMII in both ONU and OLT stack
(2) remove XGMII from the list of acronyms under the figure.
Stylish line breaks will be done by IEEE staff editors if needed.

---

*Cl* **56** *SC* **56.1.2** *P* **61** *L* **12** # 2503

Remein, Duane Alcatel-Lucent

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

"Duplicate text:
""a) PON with a nominal bit rate of 1000 Mb/s in both downstream and upstream directions (1G-EPON), supports a nominal bit rate of 1000 Mb/s, shared amongst the population of ...""""

*SuggestedRemedy*

"Change to read:
""a) PON with a nominal bit rate of 1000 Mb/s in both downstream and upstream directions (1G-EPON), shared amongst the population of ...""""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **56** *SC* **56.1.2** *P* **61** *L* **18** # 2477

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *ROCESSED], Markup issues*

(1) text in point (b) is new (when compared with D2.0) and yet it is not marked in blue
(2) in block (b) e.g. line 21 and 22, there are references to 10BASE-PR PCS. I think this should be 10GBASE-PR PCS

*SuggestedRemedy*

"(1) Pay more attention to what Frame is doing when generating mark-up files
(2) Seach globally for ""10BASE"" and replace with ""10GBASE"" where appropriate."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Seach globally for ""10BASE"" and replace with ""10GBASE"" where appropriate."

---

*Cl* **56** *SC* **56.1.2** *P* **61** *L* **21** # 2430

Anslow, Pete Nortel Networks

*Comment Type* **T** *Comment Status* **A** *Markup issues*

"In section b) (which is shown black despite being new text in this version) contains ""10BASE-PR"" twice. This should be ""10GBASE-PR""""

*SuggestedRemedy*

"Change ""10BASE-PR"" to ""10GBASE-PR"" in two places"

*Response* *Response Status* **C**

"ACCEPT.
Change ""10BASE-PR"" to ""10GBASE-PR"" in two places.

For markup issues see comment 2735."

*Cl* **56** *SC* **56.1.2.1** *P* **61** *L* **34** # 2440

Anslow, Pete Nortel Networks

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

"comment # 1641 was ""ACCEPT"" but has not been implemented"

*SuggestedRemedy*

"Remove the word ""machines"" in strikeout font and show the word ""diagrams"" in normal font."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.2.1** *P* **61** *L* **37** # 2504

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"Erroneous reference:
""... coexistence of EPON and 10G-EPON ...""
Same error in line 41
""... Figure 56-4, for EPON, 10/10G-EPON and 10/1G-EPON ...""
Duplicate text:
""... P2MP topology in 10G-EPON (10 Gb/s EPON). The issues related to ...""""

*SuggestedRemedy*

"Change to:
ln 37 ""... coexistence of 1G-EPON and 10G-EPON ...""
ln 41 ""... Figure 56-4, for 1G-EPON, 10/10G-EPON and 10/1G-EPON ...""
remove parenthetical so it reads""
""... P2MP topology in 10G-EPON. The issues related to ...""""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.2.1** *P* **61** *L* **41** # 2459

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

"In line 41, the newly added text (did not make part of D2.0) "", Figure 56-3 and Figure 56-4, for EPON, 10/10G-EPON and 10/1G-EPON, respectively.."" is not underlined in the clean version."

*SuggestedRemedy*

Change the font for the referenced text to underlined (make sure it is also changed in the clean version).

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **56** *SC* **56.1.2.1** *P* **61** *L* **41** # 2441

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"In the second paragraph, the added text "", Figure 56-3 and Figure 56-4, for EPON, 10/10G-EPON and 10/1G-EPON, respectively.."" is (for once) shown correctly in blue, in the clean version it is not shown with underline font."

*SuggestedRemedy*

"Show "", Figure 56-3 and Figure 56-4, for EPON, 10/10G-EPON and 10/1G-EPON, respectively.."" in underline font and remove the duplicated ""."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.2.2** *P* **61** *L* **51** # 2428

Anslow, Pete Nortel Networks

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

"This says ""Extensions to the Clause 35 RS for P2MP topologies are described in Clause 65, while the RS for P2MP topologies is described in Clause 76."" which does not make sense"

*SuggestedRemedy*

"change to ""Extensions to the Clause 35 RS for P2MP topologies are described in Clause 65, while the RS for 10G-EPON P2MP topologies is described in Clause 76."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.2.2** *P* **62** *L* **5** # 2535
Remein, Duane Alcatel-Lucent

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

"Ambiguous ""It"" in ""It achieves this by ..."""

*SuggestedRemedy*

"Change to:
""The MPCP achieves this by ...""
Combine paragraphs starting on line 1 through line 13 into one paragraph as in draft ay."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **62** *L* **19** # 2690
Dawe, Piers Avago Technologies

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

re 'Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 10GBASE-R, but which include new 10GBASE-PR RS, PCS and PMA': don't call anything 'new' because a couple of amendments later it won't be new and you make maintenance trouble.

*SuggestedRemedy*

'Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 10GBASE-R, but which include their own(?) 10GBASE-PR RS, PCS and PMA'

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change to:
""Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 10GBASE-R, but which include a 10GBASE-PR RS, PCS and PMA adapted for 10G-EPON."""

*Cl* **56** *SC* **56.1.3** *P* **62** *L* **20** # 2536
Remein, Duane Alcatel-Lucent

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

"incorrect reference:
""new 10GBASE-PR RS, PCS and PMA, along with a mandatory FEC capability, as defined in Clause 77."""

*SuggestedRemedy*

Change reference to c76

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **62** *L* **38** # 2442
Anslow, Pete Nortel Networks

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

"comment # 1643 was ""ACCEPT"" but has not been implemented in current combination e) the upstream code is wrong"

*SuggestedRemedy*

"in combination e) change ""10/1GBASE-PRX-U1"" to ""10/1GBASE-PRX-U2"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **63** *L* **48** # 2480
Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **R** *SED], Table 56-1 Footnote b*

"(1) Footnote ""b"" is confusing. I believe we agreed to use term ""symmetric-rate"" rather than ""symmetric""
(2) Editorial comment on the same table: why is footnote (b) ahead of (a) ??"

*SuggestedRemedy*

"(1) Change ""symmetric"" in footnote ""b"" to ""symmetric-rate""
(2) make sure footnote (b) is after (a) and not vice versa."

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **56** *SC* **56.1.3** *P* **63** *L* **53** # 2775
Lin, Rujian Shanghai Luster Terab

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

In Table 56-1: 1000BASE-LX10 ONU/OLTa

*SuggestedRemedy*

1000BASE-LX10 ONU/OLTb

*Response* *Response Status* **C**

ACCEPT.
[Changed from pg 51 ln 43 to pg 63 ln 53]

*Cl* **56** *SC* **56.1.3** *P* **63** *L* **53** # 2436

Anslow, Pete Nortel Networks

*Comment Type* **T** *Comment Status* **A** *SED], Table 56-1 Footnote b*

"In Table 56-1, note a is applied to ""ONU/OLT"" for 1000BASE-LX10. This should be note b Also the note b ""Symmetric"" is confusing with the introduction of ""asymmetric-rate"" in note a"

*SuggestedRemedy*

"change note applied to ""ONU/OLT"" for 1000BASE-LX10 to b
Also, change note b to ""Symmetric ONU and OLT"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **1** # 2462

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *[TO BE PROCESSED]*

"(1) Modified Table 56-1 contains several repeated footnotes e.g. d and f, e and g. Please collapse them and use a single footnote with multiple references in the table
(2) there should be no space between the word and the footnote designator i.e. ""CO <superescript>c"" should become ""CO<superescript>c"""

*SuggestedRemedy*

As indicated in the comment

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **22** # 2765

Lin, Rujian Shanghai Luster Terab

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

In Table 56-1: 10/1GBASE-PRX-U3 ONU 1000Mb/s
(rx)10Gb/s

*SuggestedRemedy*

10/1GBASE-PRX-U3 ONU 1000Mb/s(tx)
10Gb/s(rx)

*Response* *Response Status* **C**

ACCEPT.
[Changed from pg 51 ln 1314, to page 64 line 22]

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **22** # 2478

Hajduczenia, Marek ZTE Corporation

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

"Something went wrong with the 10/1GBASE-PRX-U3 description. It says now ""1000 Mb/s (rx)10 Gb/s"" while it should say ""1000 Mb/s(tx)
10 Gb/s(rx)"""

*SuggestedRemedy*

"Change ""1000 Mb/s
(rx)10 Gb/s"" to read ""1000 Mb/s(tx)
10 Gb/s(rx)"" in column ""Rate"" for 10/1GBASE-PRX-U3 PMD description."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **22** # 2443

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"In Table 56-1, the row for ""10/1GBASE-PRX-U3"" contains ""1000 Mb/s (rx)10 Gb/s"" which should be ""1000 Mb/s (tx) 10 Gb/s (rx)"""

*SuggestedRemedy*

"change ""1000 Mb/s (rx)10 Gb/s"" to ""1000 Mb/s (tx) 10 Gb/s (rx)"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **23** # 2581

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"In table 56-1, the rate for 10/1GBASE-PRX-U3 is misisng the ""(tx)"" label. ""(rx)"" label is in a wrong place."

*SuggestedRemedy*

Fix the labels

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **64** *L* **33** # 2537

Remein, Duane Alcatel-Lucent

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

"link references to footnote ""c"" in bottom 4 rows to the footnote"

*SuggestedRemedy*

if possible.

*Response* *Response Status* **C**

ACCEPT.
If reasonably feasible.

*Cl* **56** *SC* **56.1.3** *P* **67** *L* **4** # 2479

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"In table 56-3, it seems that implementation of ""10/1GBASE-PRX and 10GBASE-PR"" is mandatory for all PHYs, while either 10/1GBASE-PRX or 10GBASE-PR needs to be implemented."

*SuggestedRemedy*

"Change ""10/1GBASE-PRX and 10GBASE-PR"" to ""10/1GBASE-PRX or 10GBASE-PR"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.1.3** *P* **67** *L* **6** # 2444

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"The column heading for clause 75 says ""10/1GBASE-PRX and 10GBASE-PR PMDs"" but only one of the two needs to be implemented"

*SuggestedRemedy*

"change to ""10/1GBASE-PRX or 10GBASE-PR PMDs"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **56** *SC* **56.2** *P* **67** *L* **37** # 2538

Remein, Duane Alcatel-Lucent

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

Remove helpful headers 56.2 & 56.3

*SuggestedRemedy*

per comment.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **66** *SC* **66.1** *P* **69** *L* **27** # 2539

Remein, Duane Alcatel-Lucent

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

Remove helpful headers 66.1, 66.2 and 66.5 (including Editing instruction before 66.5 as renumbering instructions are clear in preceding instruction)

*SuggestedRemedy*

per comment.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **66** *SC* **66.5.3** *P* **71** *L* **11** # 2540

Remein, Duane Alcatel-Lucent

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

"Editing instruction
""Insert in Subclause 66.5.3 ""Major capabilities/options"" add item to end of PICS (table heading shown for clarity):"" is confusing.
No subclause text to insert is shown,
""add"" is invalid editing instruction (2 places)"

*SuggestedRemedy*

"Change to:
""Insert in Subclause 66.5.3"" {Editing instruction}
66.5.3 Major capabilities/options {Subclause header}

""Insert item to end of PICS (table heading shown for clarity):"" {Editing instruction}

""Change ""P2P"" to Subclause 66.5.4.4 title as follows:"" {Editing instruction}"

*Response* *Response Status* **C**

ACCEPT.

*Cl* **67** *SC* **67** *P* **73** *L* **26** # 2541

Remein, Duane Alcatel-Lucent

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

"Per note ""Replace is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one."""

*SuggestedRemedy*

"Use keyword ""Change"" and use mark-up text."

*Response* *Response Status* **C**

ACCEPT.
[Changed page from 67.6.3 to 73]

*Cl* **75** *SC* **75.1.4** *P* **50** *L* **45** # 202026

Frazier, Howard Broadcom

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

"PX10 s/b ""PX20""."

*SuggestedRemedy*

change as suggested in comment.

*Response* *Response Status* **C**

ACCEPT.
See comment #1586

*Cl* **75** *SC* **75.1.4** *P* **77** *L* **1** # 2482

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *PMD reach*

"Table 75-1 was modified by removing >= and <= from distances. While the change of ""<=0.5"" to ""0.5"" is justified, I think we all agree that 10G-EPON can work beyond 10/20 km marker if proper care is taken in applying the appropriate PMDs. Change the content of the line ""Maximum reach"" to read "">=10"", "">=20"" and "">=20"" for low, medium and high power budget classes accordingly."

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.1.4** *P* **77** *L* **31** # 2663

Farmer, Jim Wave7 Optics

*Comment Type* **TR** *Comment Status* **R** *'OCESSED], wavelength plan*

Use of 1590 nm as downstream wavelength for PR(X)10, 20 was removed at last meeting.

This occurs in Table 75-1, 75-5, 75-11, 75-12, 75-13, and 75-20, and throughout section 75.6.1.1

*SuggestedRemedy*

This goes back to the resolution of comment #2158 at the Seoul meeting, in which the 1590 +/-10 nm downstream wavelength was deleted for Pr(X)10 and 20 PMDs. We seek reconsideration of this action. It is not likely that the narrow wavelength band of 1577 +/-3 nm is going to accommodate all needs. We are concerned about the complexity of the wavelength stabilization circuitry that will have to be added. Also, since this wavelength is closer to the 1550 nm broadcast downstream wavelength, which as a practical matter extends to 1560 nm, the filter needed at the ONU to separate the two wavelengths is going to be more complex. Allowing the use of 1590 nm will help alleviate this problem.

We concur with leaving the wavelength for PR(X)30 at 1577 nm, so this option is not precluded.

*Response* *Response Status* **C**

REJECT.
Elimination of the 1580 - 1600 nm band was discussed and voted on at September meeting - see #2158 in 3av_0809_comments_d2_0_accepted.pdf.

[Changed clause from 00 to 75]
[Changed subclause from 0 to 75.1.4]
[Changed line from blank to 31]

I approve the resolution of this comment (i.e draft D2.1 is not changed. All power budgets operate at 1577 +- 3nm.)
Yes: 18
No: 10
Abstain: 2
Room count: 31
Roll call will be posted in 3av_0811_2663_roll_call.pdf.

See Motion#6 in the minutes from November 2008 meeting.

Modify Table 75-1 per 3av_0811_hajduczenia_9.pdf.

*Cl* **75** *SC* **75.1.4** *P* **77** *L* **4** # 2665

Brown, Alan Enablence Technologi

*Comment Type* **TR** *Comment Status* **R** *wavelength plan*

Comment #2158 resolved in Seoul changed the downstream wavelength for PMD types PRX10, PR10, PRX20, and PR20 from 1590 +/-10 nm to 1577 +/- 3 nm. We seek reconsideration of this action based on significant discussions on the e-mail reflector.

*SuggestedRemedy*

Return the downstream wavelength for PMD types PRX10, PR10, PRX20, and PR20 to 1590 +/-10 nm.

*Response* *Response Status* **C**

REJECT.
[was page 51 line 16]
See comment #2663.

---

*Cl* **75** *SC* **75.1.4** *P* **77** *L* **43,4** # 2602

Kengo Hirano NEC Corporation

*Comment Type* **TR** *Comment Status* **R** *wavelength plan*

Nominal downstream wavelength of PR10 and PR20 should not be changed(1590->1577nm). Because the conventional argument is wasted.

*SuggestedRemedy*

"Nominal downstream wavelength of PR10 and PR20 should be 1590nm."""

*Response* *Response Status* **C**

REJECT.
See comment #2663.

---

*Cl* **75** *SC* **75.1.4** *P* **77** *L* **51** # 2542

Remein, Duane Alcatel-Lucent

*Comment Type* **TR** *Comment Status* **A** *PMD reach*

"Maximum and ""Minimum"" reach.
Stating that the Maximum reach is 10 or 20 km is incorrect. This implies if a PMD can reach 10.5 km it is out of spec."

*SuggestedRemedy*

"Revert to style used in c60 and specify as ""minimum range"", ""0.5 m to 10 km"" or ""0.5 m to 20 km"" as appropriate. Add footnote ""The minimum range may be increased, or, links with a higher channel insertion loss may be used"""

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2482 for resolution.

---

*Cl* **75** *SC* **75.10.6** *P* **113** *L* **24** # 2510

Remein, Duane Alcatel-Lucent

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

"Missing ""-"" in PMD name ""10/1GBASEPRX-U2"""

*SuggestedRemedy*

"Change to 10/1GBASE-PRX-U2"""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **75** *SC* **75.10.6** *P* **113** *L* **24** # 2567

Kramer, Glen Teknovus, Inc.

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

"Missing comma after ""10GBASE-PR-U1"""

*SuggestedRemedy*

add comma

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **75** *SC* **75.11.1** *P* **113** *L* **44** # 2469

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

@@XXX@@ was not updated in the final version of the draft. Either provide reference number or remove altogether.

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Remove the ""[@@XXX@@]"" block from the indicated location altogether"

*Cl* **75** *SC* **75.11.3** *P* **114** *L* **30** # 2490

Doug Coleman Corning

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

Need to add tight-buffered fiber cable row into Table 75-14 for FTTH deployments to living units throughout MDU buildings that may use both indoor and outdoor fiber cables.

*SuggestedRemedy*

Would suggest having an OSP fiber cable row (existing) and an ISP fiber cable row (new). ISP attenuation performance is specified at maximum values of 1.0/0.75 dB/km at 1310/1550 nm.

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

"ACCEPT IN PRINCIPLE.
Rationale for the response: we are not writing a standard for the ODN and we cannot prescribe what fibers are to be used. The TF will make reasonable effort to not preclude mentioned fiber types.

Changes to Table 75-1:
- remove row ""Fiber type""

Changes to Table 75-14:
- add a footnote to field with all the supported fiber types (column 2, line 1) with the following text ""Other fiber types are acceptable if the resulting ODN meets channel insertion loss and dispersion requirements."""

*Cl* **75** *SC* **75.11.3** *P* **114** *L* **54** # 2511

Remein, Duane Alcatel-Lucent

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

"Erroneous change from within to with
""The only requirements are that the resulting channel insertion loss is with the limits specified in Table 75-1 ..."""

*SuggestedRemedy*

"Change back to within:
""The only ... loss is within the limits ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.2** *P* **81** *L* **52** # 2766

Lin, Rujian Shanghai Luster Terab

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

Inside Figure75-1, there is a block denoted by
Optical
distributor
combiner(s)
Because the optical couplers behave as distributors in downstrem and combiners in upstream. One coupler has two functions. So it is better to denote the block as
Optical
distributor(s)/
combiner(s)

*SuggestedRemedy*

denote the block as
Optical
distributor(s)/
combiner(s)
Same modification is applied to Figure75-2, Figure76-1,Figure76-2

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

[page and line numbers were fixed, was against D2.1 clean version, p 64, ln 23]
The same modification will have to be introduced to Figure 77-2, 77-3, 76-1, 76-2, 75-1, 75-2, 56-2, 56-3, 56-4

*Cl* **75** *SC* **75.3.1.1** *P* **84** *L* **27** # 2703

Dawe, Piers Avago Technologies

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

'introduce a constant transmit delay of not more than 4 time_quanta with the variability of no more than 0.5 time_quanta': contradiction.

*SuggestedRemedy*

Change to 'introduce a transmit delay of not more than 4 time_quanta with a variability of no more than 0.5 time_quanta'. Also receive, and in PICS.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.3.2** *P* **57** *L* **3** # 202028

Frazier, Howard Broadcom

*Comment Type* **TR** *Comment Status* **A** *Test point description*

The introduction of two new conventions for identifying test points is bound to cause confusion. The previous TP1 through TP4 convention served us well since 802.3z, with only a minor modification for EPON in 802.3ah. I think that introducing TP5 through TP8, plus the rectangles and ovals, will not stand the test of time. How do you represent a rectangle or oval in a spreadsheet or a datasheet?

*SuggestedRemedy*

Revert to the test point identification convention established in 802.3ah Clause 60.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2175
TF believes that having unique identifiers for test points in downstream and upstream direction is less ambigious.

*Cl* **75** *SC* **75.3.2** *P* **85** *L* **47** # 2505

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"Hopefully measurements are only made at one TP
""all transmitter measurements and tests defined in Subclause 75.9 are made at TP2 and TP6""
Same at line 49 ""all receiver measurements and tests defined in Subclause 75.9 are made at TP3 and TP7"""

*SuggestedRemedy*

"Change to
""all transmitter ... TP2 or TP6""

and
""all receiver ... TP3 or TP7"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.3.3** *P* **87** *L* **1** # 2484

Hajduczenia, Marek ZTE Corporation

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

Figure 75-3 is affected. Tx_enable signal should leave from PMA and be connected to PMD (see Figure 76-8, where this signal is generated by PCS, passes through PMA and reaches PMD). Additionally, a new primitive PMA_SIGNAL was added to Clause 76 (see page 201), indicatign that PMA is indeed a part of the signal transmission process.

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.4** *P* **90** *L* **36** # 2451

SAEKI, NAOTO NEC Corporation

*Comment Type* **TR** *Comment Status* **A** *velength plan - once resolved*

The downstream wavelength for PR10 and PR20 should not be changed without any discussion for power budget. Considering long histry of discussion for PMD, especially wave length and power budget, in 802.3av TF, combination of power budget and wave lenghth in D2.0 were the only solution for convergence of the discussion.

*SuggestedRemedy*

If wave length change is required, OLT transmitter launched power and ONU receiver sensitivity for PR20 should also be changed as below.
OLT transmitter average launched power: 2 to 5 dBm (same as PR30)
ONU receiver sensitivity (max): -28.5 dBm (same as PR30)
( related parameters will be also changed.)
In this solution, we can reduce the downstream PMD class. (from 3 to 2 classes)
In addition, we ca use same ONU receiver for PR20 and 30 by changing condition of FEC.
(same receiver with FEC for PR30, without FEC for PR20)

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

"ACCEPT IN PRINCIPLE.
[subclause number was fixed, was 4, is 75.4]

I approve the response (REJECT). Draft 2.1 remains as it is.
Yes: 15
No: 8
Abstain: 11
Motion fails

I approve the response (""AIP. See comment #2737 for resolution"").
Yes: 27
No: 0
Abstain: 8
Comment is closed"

*Cl* **75** *SC* **75.4.1** *P* **90** *L* **22** # 2506

Remein, Duane Alcatel-Lucent

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

"The plural possessive pronoun ""Its""
""Its RIN15OMA should ...""
There is another one of these on pg 91 ln 44.
And again on pg 94 ln 29

and also .. and on line 24 is way confusing
""Note that 10GBASE-PR-D1 and 10/1GBASE-PRX-D1, 10GBASE-PR-D2 and 10/1GBASE-PRX-D2 and also 10GBASE-PR-D3 and 10/1GBASE-PRX-D3 share the same transmit parameters"""

*SuggestedRemedy*

"Suggest changing to ""The RIN15OMA of these PMDs should ...""
(watch out for the subscript)

On pg 91 ln 44 change to: ""Its (unstressed) ..."" to ""These PMDs (unstressed) ...""
On pg 94 ln 29 change to: ""The RIN15OMA of these PMDs ...""
Suggest:
""Note that the following PMD pairs share the same transmit parameters; 10GBASE-PR-D1 and 10/1GBASE-PRX-D1, 10GBASE-PR-D2 and 10/1GBASE-PRX-D2, and 10GBASE-PR-D3 and 10/1GBASE-PRX-D3."" (could also skip pointing out the obvious."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
On pg 91 ln 44 change to: ""Its (unstressed) ..."" to ""Their (unstressed) ...""
On pg 94 ln 29 change to: ""Their RIN15OMA ...""
On pg 90 ln 22 change to: ""Their RIN15OMA ...""
On pg 90 ln 23, change the last sentence to read: ""Note that the following PMD pairs share the same transmit parameters; 10GBASE-PR-D1 and 10/1GBASE-PRX-D1, 10GBASE-PR-D2 and 10/1GBASE-PRX-D2, and 10GBASE-PR-D3 and 10/1GBASE-PRX-D3."""

*Cl* **75** *SC* **75.4.1** *P* **90** *L* **28** # 2737

Lynskey, Eric Teknovus

*Comment Type* **T** *Comment Status* **A** *velength plan - once resolved*

With the change in wavelength, there is now only 1dB of difference in transmit power between the 10GBASE-PR-D1 and 10GBASE-PR-D3 transmit PMDs. Is there really a need to support separate transmit PMDs over 1dB of transmit power? Would it be possible to simply combine the two into a single PMD?

*SuggestedRemedy*

Eliminate 10GBASE-PR-D1 PMD. All references to this PMD are replaced iwth 10GBASE-PR-D3.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.

Motion #5:
Accept combining PR-10 and PR-30 at the OLT. Develop proposal for necessary adjustments to the ONU Rx.
Moved by: Frank Effenberger
Seconded by: Duane Remein
Yes: 32
No: 0
Abstain: 3
Motion passes

Changes to commonalize PR10 and PR30 downstream transmitters:

Table 75-5:
Copy parameters from Column number 4 into column 2.
Merge headers from columns 4 into column 2
Delete column 4.

Table 75-11:
Change Average receive power (max) for the U1 column to: 0 (from -1)
Change Damage threshold (max) for the U1 column to: +1 (from 0)

Tables 75B-1 and B2:
Change Allocation for penalties for the PR10 DS column to: 2.5 (from 1.5), and add a note on that cell: ""The extra 1 dB of penalty here is to unify the downstream Tx and Rx specifications.""

I approve the above resolution (AIP) with changes per above
Yes: 32
No: 0
Abstain: 3
Comment is resolved."

*Cl* **75** *SC* **75.4.2** *P* **62** *L* **13** # 202029

Frazier, Howard Broadcom

*Comment Type* **TR** *Comment Status* **R** *Damage threshold*

The damage threshold is only 1 dB above the average receive power, which doesn't seem like enough margin. In 802.3ah the margin was 5 dB for PX10
and 10 dB for PX20.

*SuggestedRemedy*

Set the damage threshold at least 5 dB above the average receive power.

*Response* *Response Status* **C**

REJECT.
During the discussions on the PMDs, it was decided that 1 dB damage threshold was acceptable. Higher values would prohibit design of 29 dB CHIL PMDs.

Accept this response
Yes: 22
No: 0
Abstain: 2

---

*Cl* **75** *SC* **75.4.2** *P* **91** *L* **43** # 2769

Lin, Rujian Shanghai Luster Terab

*Comment Type* **T** *Comment Status* **A** *essed receiver characteristics*

Its (unstressed) receiver characteristics should be meet the values listed in Table 75-6 and Table 75-7.....

*SuggestedRemedy*

delete the word (unstressed)

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
[page and line numbers were fixed, was against D2.1 clean version, p 74, ln 40]
Remove parenthesis and keep the sentence unaltered otherwise. The same for page 97 line 29.

---

*Cl* **75** *SC* **75.4.2** *P* **93** *L* **38** # 2507

Remein, Duane Alcatel-Lucent

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

Footnote a (or maybe b) moved from the description column to the 10/1GGBASE-PRS-D3 column. This seems strange as footnote more typically are in the Description column

*SuggestedRemedy*

"Change footnote to read ""The stressed receiver sensitivity is optional for 10/1GBASE-PRX-D1 and 10/1GBASE-PRX-D2 whereas it is mandatory for 10/1GBASE-PRX-D3."" and return footnote to Description column."

*Response* *Response Status* **C**

"REJECT.
[Changed from ""E"" to ""T""]
Change was done per comment #2191 in 3av_0809_comments_d2_0_accepted.pdf, indicating that footnorte is applicable to 10/1GBASE-PRX-D3 only. There is no need to reaffirm the fact that stressed receiver sensitivity is optional for 10/1GBASE-PRX-D1 and 10/1GBASE-PRX-D2, which point back to Clause 60 PMDs. Effectively, Footnote ""a"" was removed and footnote ""b"" was inserted."

---

*Cl* **75** *SC* **75.5** *P* **94** *L* **14** # 2508

Remein, Duane Alcatel-Lucent

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

"And vs or: ""PR and PRX compliant transceiver"""

*SuggestedRemedy*

"Change to ""PR or PRX compliant transceiver"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.5.1** *P* **94** *L* **44** # 2764

TSUJI SHINJI Sumitomo Elecric

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

In this draft, the transmitter and receiver specification is defined by OMA and average power method. This can have a relaxed extinction ratio and lower transmitter cost. Current E-PON(1000BASE-PX-10/20) and 10G(10GBASE-LR) are also along with this manner. The benefit of appling this to ONU tranmitter is relatively large because of its high volume in PON system. This also has a good techinical/cost balance between OLT and ONU.

*SuggestedRemedy*

"Modify the Extinction ratio (min) of 10GBASE-PR-U1 and 10GBASE-PR-U3 to 4.5dB."""

*Response* *Response Status* **U**

REJECT.

Modify the Extinction ratio (min) of 10GBASE-PR-U1 and 10GBASE-PR-U3 to 5.3dB.
I approve this response to the comment:
Yes: 6
No: 18
Abstain: 7
Proposed REJECT (draft stays as per D2.1)
Yes: 21
No: 3
Abstain: 9

*Cl* **75** *SC* **75.5.1** *P* **97** *L* **15** # 2770

Lin, Rujian Shanghai Luster Terab

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

In Figure 75-6 epsilen=0.10, but in Table 75-10, epsilen=0.08. This difference should be elliminated.

*SuggestedRemedy*

Use a unified epsilen value in specifying the laser spectral limits.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
[page and line numbers were fixed, was against D2.1 clean version, p 78/79, ln 398]
Change Figure 75-6 Epsilen limit from 0.10 to 0.08. See comment #1514 from 2008-05 and associated file 3av_0805_suzuki_1.pdf.

*Cl* **75** *SC* **75.5.2** *P* **67** *L* **46** # 202030

Frazier, Howard Broadcom

*Comment Type* **TR** *Comment Status* **R** *Damage threshold*

In Table 75-11, there is only 1 dB margin between average receive power (max) and the damage threshold. I think this is too small. 802.3ah had a margin of 5 dB for PX10 and 10 dB for PX20.

*SuggestedRemedy*

set the damage threshold at least 5 dB above the average receiver power (max).

*Response* *Response Status* **C**

REJECT.
See comment #2029 for rationale

*Cl* **75** *SC* **75.6.1.2** *P* **71** *L* **36** # 202031

Frazier, Howard Broadcom

*Comment Type* **TR** *Comment Status* **R** *Informative Annexes*

The second paragraph of this subclause is tutorial in nature and should be deleted.

*SuggestedRemedy*

delete the 2nd paragraph of 75.6.1.2.

*Response* *Response Status* **C**

REJECT.
This text helps readers in selecting relevant section of this specification and is useful for this reason.

I accept this resolution
Yes: 26
No: 0
Abstain: 1

[Editorial note: See comment #2373.]

*Cl* **75** *SC* **75.6.1.2** *P* **71** *L* **37** # 202406

Law, David 3Com

*Comment Type* **TR** *Comment Status* **A** *PROCESSED], dual-rate term*

It is very confusing to use the term 'dual-rate' operation to mean something other that 10/1Gb/s operation supported by 10/1GBASE-PRX PHYs. What is described here seems instead to be dual-mode operation - or coexistence of EPON and 10GEPON - although it is not clear if dual-rate refers to [a] the coexistence of 10GBASE-PR and 10/1GBASE-PRX, [b] the coexistence of 10GBASE-PRX with 1000BASE-PX, [c] 10/1GBASE-PRX and 1000BASE-PX or [d] any of the above.

Also it is not clear why it has to be stated that TDMA techniques have to be used specifically in the case of coexistence to avoid collisions since, as far as I understood, TDMA always has to be used in PONs to avoid collisions.

Finally the term channel is used to refer to the Fibre optic cable plant - see for example Figure 75-3 and Table 75-1 (channel insertion loss).

*SuggestedRemedy*

Change the text 'An OLT supporting both upstream channels must use TDMA techniques to avoid collisions between transmissions originating from different ONUs, resulting in a dual-rate, burst mode transmission as discussed in Subclause 75.7.' to read 'For implemeantion information related to an OLT that supports both upstream wavebands see subclause 75.7.'. The details of the coexistence should be described in that subclause.

Elsewhere in the draft change 'dual-rate' to read 'coexistence'.

*Response* *Response Status* **U**

"ACCEPT IN PRINCIPLE.

Where appropriate replace term ""channel"" with ""data rate"".

In the draft, 10/1GBASE-PRX is referred to as ""asymmetric-rate"" PHY. The term ""dual-rate"" is exclusively reserved for OLT Rx being able to receive 10G and 1G signals.
TF believes that term ""dual rate"" is more specific than term ""coexistence"" and should be retained.

Implement together with #2373 and #2347."

*Cl* **75** *SC* **75.7** *P* **105** *L* **52** # 2486

Hamano, Hiroshi Fujitsu Labs. Ltd.

*Comment Type* **E** *Comment Status* **A** *ESSED], Table 75-12 and text*

Sentences and Table 75-12 in the Subclause, which were discussed and modified in the last meeting, are somewhat separate and their relationship is not clear in context.

*SuggestedRemedy*

See Supplement 3av_0811_hamano_1.pdf.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
For changes, see file 3av_0811_hajduczenia_8.pdf.

*Cl* **75** *SC* **75.7** *P* **106** *L* **21** # 2487

Hamano, Hiroshi Fujitsu Labs. Ltd.

*Comment Type* **E** *Comment Status* **A** *Table 75-12 and text*

"In Table 75-12, Plus mark ""+"" is not appropriate to indicate ""and"".
It is confusing where Minus mark ""-"" is used to combine suffixes."

*SuggestedRemedy*

See Supplement 3av_0811_hamano_1.pdf.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2486 for resolution

*Cl* **75** *SC* **75.7** *P* **71** *L* **41** # 202032

Frazier, Howard Broadcom

*Comment Type* **TR** *Comment Status* **A** *mative Annexes, Hidden shall*

"This entire subclause, while well written and informative, is tutorial in nature. It discusses implementation choices, not interoperability requirements.
The exception is the shall statement in the last paragraph of the subclause which deals with the damage threshold of a dual rate receiver. A shall statement should not appear in a subclause that is labled ""informative"", so this requirement should be moved to a normative subclause."

*SuggestedRemedy*

Delete the subclause and move the damage threshold requirement to a normative subclause.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.

This section is informative and deemed useful, thus should be retained.

""Shall"" statement was removed per comment #1599. Section can be moved to a separate annex pending resolution to comment #2373."

*Cl* **75** *SC* **75.7.10** *P* **111** *L* **28** # 2767

Lin, Rujian Shanghai Luster Terab

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

TDP measurement tests for transmitter impairments with chromatic effects for a transmitter to be used with single-mode fiber.
This sentense is unlear.

*SuggestedRemedy*

"Change the sentense to ""TDP measurement tests for transmitter impairments with chromatic dispersion effects of single-mode fiber used by the transmitter."""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[page and line numbers were fixed, was against D2.1 clean version, p 84, ln 28]
Change to ""TDP measurement tests transmitter impairments caused by chromatic dispersion effects due to signal propagation in SMF used in PON."""

*Cl* **75** *SC* **75.7.12** *P* **111** *L* **44** # 2771

Lin, Rujian Shanghai Luster Terab

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

Compliance with stressed receiver sensitivity is mandatory for 10GBASE-PR-D1,10GBASE-PR-D2,10GBASE-PR-D3,10GBASE-PR-U1,10GBASE-PR-U3,10/1GBASE-PRX-D3,10/1GBASE-PRX-U1,10/1GBASE-PRX-U2 and 10GBASE-PRX-U3

*SuggestedRemedy*

Add 10/1GBASE-PRX-D1, 10/1GBASE-PRX-D2.

*Response* *Response Status* **C**

REJECT.
[page and line numbers were fixed, was against D2.1 clean version, p 84, ln 44]
Stressed receiver sensitivity is NOT mandatory for 1.25 GBd OLT PMD Rx derived from PX10 and PX20 EPON specifications - check Table 75-7 and the location of footnote (b).

*Cl* **75** *SC* **75.7.15** *P* **112** *L* **16** # 2768

Lin, Rujian Shanghai Luster Terab

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

Ton is defined in 60.7.13.1.1, its value is less than 512ns

*SuggestedRemedy*

"modified to ""Ton is defined in 60.7.13.1.1 and its value is less than 512ns"""

*Response* *Response Status* **C**

ACCEPT.
[page and line numbers were fixed, was against D2.1 clean version, p 85, ln 14]

*Cl* **75** *SC* **75.7.15** *P* **112** *L* **20** # 2777

Lin, Rujian Shanghai Luster Terab

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

TCDR is defined in 76.3.2.1, its value less than 400ns.

*SuggestedRemedy*

"Modified to ""TCDR is defined in 76.3.2.1 and its value is less than 400ns."

*Response* *Response Status* **C**

ACCEPT.
[page and line numbers were fixed, was against D2.1 clean version, p 85, ln 16]

*Cl* **75** *SC* **75.7.15** *P* **112** *L* **21** # 2778

Lin, Rujian Shanghai Luster Terab

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

Tcode_group_align is defined in 36.6.2.4, its value less than 4 ten-bit code-groups for 1 Gb/s PHYs, and is defined as 0 for 10 Gb/s PHYs.

*SuggestedRemedy*

"Change to ""Tcode_group_align is defined in 36.6.2.4 and its value is less than 4 ten-bit code-groups for 1 Gb/s PHYs and 0 for 10 Gb/s PHYs."

*Response* *Response Status* **C**

ACCEPT.
[page and line numbers were fixed, was against D2.1 clean version, p 85, ln 1718]

*Cl* **75** *SC* **75.7.15** *P* **112** *L* **23** # 2779

Lin, Rujian Shanghai Luster Terab

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

Toff is defined in 60.7.13.11.1, its value is less than 512ns

*SuggestedRemedy*

"Modified to ""Toff is defined in 60.7.13.11.1 and its value is less than 512ns"

*Response* *Response Status* **C**

ACCEPT.
[page and line numbers were fixed, was against D2.1 clean version, p 85, ln 19]

*Cl* **75** *SC* **75.8.1** *P* **106** *L* **35** # 2509

Remein, Duane Alcatel-Lucent

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

"Missing conjunctions:
""... downstream signals in WDM manner.""
also at line 42:
""... signals in TDMA manner."""

*SuggestedRemedy*

"Change to:
""... downstream signals in a WDM manner.""
also at line 42:
""... signals in a TDMA manner."""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **75** *SC* **75.8.2** *P* **106** *L* **47** # 2564

Kramer, Glen Teknovus, Inc.

*Comment Type* **E** *Comment Status* **A** *Table 75-12 and text*

rephrase the note for better readability.

*SuggestedRemedy*

"Replace ""NOTE-The damage threshold values in Table 75-7 are considerably higher than those in Table 75-6 and the PMD should be appropriately labeled.""

with

""NOTE-The damage threshold values in Table 75-7 are considerably higher than those in Table 75-6; the dual-rate PMD should be appropriately labeled."""

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2486 for resolution.

---

*Cl* **75** *SC* **75.8.3** *P* **113** *L* **3** # 2780

Lin, Rujian Shanghai Luster Terab

*Comment Type* **E** *Comment Status* **R**

....as defined by applicable local codes and regulation, be followed.....

*SuggestedRemedy*

"Modified to "" ....as defined by applicable local codes and regulation should be followed....."

*Response* *Response Status* **C**

REJECT.
[page and line numbers were fixed, was against D2.1 clean version, p 85, ln 48]
Original sentence reads OK..

---

*Cl* **75** *SC* **75.8.4** *P* **113** *L* **8** # 2781

Lin, Rujian Shanghai Luster Terab

*Comment Type* **E** *Comment Status* **R**

....operating environment specifications are as defined in 52.11, as defined in 52.11.1 for electromagnetic emission.....

*SuggestedRemedy*

"Modified to""....operating environment specifications are as defined in 52.11.1 for electromagnetic emission....."

*Response* *Response Status* **C**

"REJECT.
[page and line numbers were fixed, was against D2.1 clean version, p 86, ln 3]
""The 10GBASE-PR and 10/1GBASE-PRX operating environment specifications are as defined in 52.11, as defined in 52.11.1 for electromagnetic emission, and as defined in 52.11.2 for temperature, humidity, and handling."" reads perfectly fine."

---

*Cl* **75** *SC* **75.9.1** *P* **107** *L* **9** # 2565

Kramer, Glen Teknovus, Inc.

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

Missing comma

*SuggestedRemedy*

"Add comma after ""1310"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.9.12** *P* **111** *L* **46** # 2566

Kramer, Glen Teknovus, Inc.

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

"Missing comma after ""10/1GBASE-PRX-U2"""

*SuggestedRemedy*

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.9.12** *P* **111** *L* **50** # 2449

Anslow, Pete Nortel Networks

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

"This is subclause 75.7.12 in the clean version.
Comment # 1609 was ""ACCEPT"" but has not been implemented."

*SuggestedRemedy*

"Change ""and"" to ""or"" to give ""defined in Table 75-6, Table 75-7, or Table 75-11 as appropriate,"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.9.4** *P* **108** *L* **26** # 2426

Anslow, Pete Nortel Networks

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

"This is subclause 75.7.4 in the clean version.
Comment # 1603 was ""ACCEPT"" but has not been implemented."

*SuggestedRemedy*

"change to ""The center wavelength and spectral width (RMS) shall meet the specifications when measured according to TIA-455-127-A under modulated conditions ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75** *SC* **75.9.6** *P* **108** *L* **43** # 2740

Lynskey, Eric Teknovus

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

If the test frames may be interspersed with OAM packets, they will almost certainly also be interspersed with MPCP packets.

*SuggestedRemedy*

"Change to ""...interspersed with OAM and/or MPCP packets..."""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Strike ""that may be interspersed with OAM packets per 43.B.2, """

*Cl* **75** *SC* **75.9.9** *P* **109** *L* **11** # 2583

Kramer, Glen Teknovus, Inc.

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

It is not clear what is mean by 1Gb/s PMD and 10Gb/s PMD. Replace with the correct terminology.

*SuggestedRemedy*

"1) Instead of ""1Gb/s PMD"" use ""upstream direction of 10/1GBASE-PRX PMD""
2) Instead of ""10Gb/s PMD"" use ""downstream direction of 10/1GBASE-PRX PMD and both directions of 10GBASE-PR PMD""
3) Made corresponding updates to titles of Figures 75-7 and 75-8."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75A** *SC* **75A** *P* **129** *L* **18** # 2512

Remein, Duane Alcatel-Lucent

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

"Duplicate word.
""... supports a single upstream data rate e.g. only 1 Gb/s or 10 Gb/s data rate, ..."""

*SuggestedRemedy*

"Delete second ""data rate""
""... supports a single upstream data rate e.g. only 1 Gb/s or 10 Gb/s, ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75A** *SC* **75A** *P* **130** *L* **40** # 2782

Lin, Rujian Shanghai Luster Terab

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

...one TIA units are...

*SuggestedRemedy*

"Modified to""...one TIA unit are..."""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[changed fm clause ""Annex"" to 75A]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 99, ln 41]
Change to "". one TIA unit is . """

*Cl* **75A** *SC* **75A** *P* **130** *L* **40** # 2446

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **R**

"The acronym ""TIA"" is used in many places in Annex 75A but it is not (except meaning ""Telecommunications Industry Association"" in the list of abbreviations"

*SuggestedRemedy*

Add TIA meaning Trans-Impedance Amplifier to the list of abbreviations

*Response* *Response Status* **C**

REJECT.
TIA is used exclusively in Annex 75A and defined on page 129 for local use only. It is also explicitly expanded in each figure in this annex that makes use of it (see 75A-1, 75A-2). As such, there is little doubt what it is and where it is defined.

*Cl* **75A** *SC* **75A** *P* **131** *L* **43** # 2513

Remein, Duane Alcatel-Lucent

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

"Dropped conjunction
""... to the MAC Client and is not available to PMD sublayer."""

*SuggestedRemedy*

"add ""the"" before PMD
""... to the MAC Client and is not available to the PMD sublayer."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75A** *SC* **75A** *P* **132** *L* **33** # 2772

Lin, Rujian Shanghai Luster Terab

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

10/1GBASE-PRX-D1 and 10/1GBASE-PRX-D2 in Table 75-5....

*SuggestedRemedy*

"Modified to ""10/1GBASE-PRX-D1, 10/1GBASE-PRX-D2 and 10/1GBASE-PRX-D3 in Table in Table 75-7...."""

*Response* *Response Status* **C**

"REJECT.
[changed fm clause ""Annex"" to 75A]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 100, ln 51]
The 10/1GBASE-PRX-D3 damage threshold already accounts for the dual-rate operation and it is the same as 10GBASE-PR-D3."

*Cl* **75B** *SC* **75B.1.1** *P* **137** *L* **16** # 2584

Kramer, Glen Teknovus, Inc.

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

Table 75B-2 lists minimal channel insertion loss (5dB, 10dB, and 15dB). How does this agree with a minumal distance sof 0.5 m pecified in table 75-1. If minimum attenuation is required then minimal distance has no meaning.

*SuggestedRemedy*

Remove minimal distance from table 75-1.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75B** *SC* **75B.1.2** *P* **137** *L* **47** # 2568

Kramer, Glen Teknovus, Inc.

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

"Few problems with this phrase: ""resulting in a dual-rate, burst mode transmission"""

*SuggestedRemedy*

"1) remove comma after dual-rate
2) insert hyphen in ""burst mode""
3) replace ""transmission"" with ""reception"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75B** *SC* **75B.1.2** *P* **137** *L* **50** # 2585

Kramer, Glen Teknovus, Inc.

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

"while an ONU selects the relevant downstream channel using an optical filter.

""selects"" implies a specific action taken by the ONU. It is better to say ""while the optical filters at an ONU are tuned to receive only one downstream wavelength"""

*SuggestedRemedy*

change per above

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75B** *SC* **75B.1.2** *P* **138** *L* **1** # 2483

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *Figure 75B-1*

Figure 75B-1 is affected. The downstream band in option (b) includes PRX type PMDs. Reference to PR type PMDs should be made for this option

*SuggestedRemedy*

"Change ""PRX10, PRX20, PRX30"" to ""PR10, PR20, PR30"" in Figure 75B-1, option (b) downstream band."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2450 for the resolution.

*Cl* **75B** *SC* **75B.1.2** *P* **138** *L* **5** # 2450

Anslow, Pete Nortel Networks

*Comment Type* **T** *Comment Status* **A** *Figure 75B-1*

"In Figure 75B-1 there is a band of wavelengths labelled ""Extended Services"" from 1550 nm to 1560 nm. This band, however is not mentioned in the text. What is it for? Is an ONU required to tolerate ligth in this band? If so what relative power level might it see?"

*SuggestedRemedy*

Either remove this band from the diagram or add text explaining the consequence of its existence.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove Figure 75B-1 and any reference to it in the text.

*Cl* **75C** *SC* *P* **142** *L* **6** # 2488

Hamano, Hiroshi Fujitsu Labs. Ltd.

*Comment Type* **E** *Comment Status* **A** *Figure 75C-1*

Text in Figure 75C-1 is not properly changed.

*SuggestedRemedy*

"It should be ""Slope = -20 dB/dec"".
See the original Figure 60-5, and also my comment #1798 and Dr. Anslow's #1600 against D2.0."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75C** *SC* **75C** *P* **139** *L* **26** # 2472

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *Table 75C-1*

The contents of the table 75C-1 (column 2 and 3) is not consistent with table indicated in 3av_0809_kozaki_2.pdf. The values seem to be inverted.

*SuggestedRemedy*

Replace the content of Table 75C-1 with data from table 1 on page 22 from file 3av_0809_kozaki_2.pdf.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **75C** *SC* **75C** *P* **139** *L* **29** # 2758

Kozaki, Seiji Mitsubishi Electric

*Comment Type* **E** *Comment Status* **A** *Table 75C-1*

In Table 75C-1, the values are wrong in the cells of Dj and Rj for TP1,TP2,TP3 and TP4.

*SuggestedRemedy*

Refer to 3av_0809_kozaki_2.pdf.

*Response* *Response Status* **C**

ACCEPT.
See comment #2472

*Cl* **75C** *SC* **75C** *P* **140** *L* **9** # 2785

Lin, Rujian Shanghai Luster Terab

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

Text of line 9-23 and Figure 75C-1 are located improperly.

*SuggestedRemedy*

For better reading, Move text of line 9-23 and Figure 75C-1 downward to under Table 75C-3 and above Table 75C-4.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[changed fm clause ""Annex"" to 75C]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 108, ln 923]
Will attempt to implement the suggested changes, subject to Frame cooperation."

---

*Cl* **75C** *SC* **75C** *P* **142** *L* **6** # 2447

Anslow, Pete Nortel Networks

*Comment Type* **E** *Comment Status* **A** *Figure 75C-1*

"The slope label in Figure 75C-1 is ""Slope = -20 dB/d"". To be consistent with Figure 60-5 this should be ""Slope = -20 dB/dec"" which is much easier to understand"

*SuggestedRemedy*

"Change the slope label in Figure 75C-1 from ""Slope = -20 dB/d"" to ""Slope = -20 dB/dec"""

*Response* *Response Status* **C**

ACCEPT.
See comment #2488.

---

*Cl* **75C** *SC* **Table 75C-1** *P* **139** *L* **36** # 2783

Lin, Rujian Shanghai Luster Terab

*Comment Type* **T** *Comment Status* **A** *Table 75C-1 and 75C-2*

"In NOTES of Table 75C-1, there is a statement ""BER conditions for TP1,TP2,TP3,TP5, TP6 and TP7 are 10-12, for TP4 and TP8 are 10-3.
But Table 75C-1 is only for TP1,TP2,TP3,TP4."

*SuggestedRemedy*

Delete TP5, TP6 ,TP7, TP8 from NOTES of Table 75C-1.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[changed from ""E"" to ""T""]
[changed fm clause ""Annex"" to 75C]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 107, ln 35]
Change part of the note under Table 75C-1 from ""BER conditions for TP1, TP2, TP3, TP5, TP6 and TP7 are 10-12, for TP4 and TP8 are 10-3."" to ""BER conditions for TP1, TP2, and TP3 are 10-12, for TP4 is 10-3.""

Change part of the note under Table 75C-2 from ""BER conditions for TP1, TP2, TP3, TP5, TP6 and TP7 are 10-12, for TP4 and TP8 are 10-3."" to ""BER conditions for TP5, TP6, and TP7 are 10-12, for TP8 is 10-3."""

---

*Cl* **75C** *SC* **Table 75C-2** *P* **140** *L* **2** # 2784

Lin, Rujian Shanghai Luster Terab

*Comment Type* **T** *Comment Status* **A** *Table 75C-1 and 75C-2*

"In NOTES of Table 75C-2, there is a statement ""BER conditions for TP1,TP2,TP3,TP5, TP6 and TP7 are 10-12, for TP4 and TP8 are 10-3.
But Table 75C-2 is only for TP5,TP6,TP7,TP8"

*SuggestedRemedy*

Delete TP1, TP2 ,TP3, TP4 from NOTES of Table 75C-2.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
[changed from ""E"" to ""T""]
[changed fm clause ""Annex"" to 75C]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 108, ln 3]
See comment #2783 for resolution"

*Cl* **75C** *SC* **Table 75C-3** *P* **140** *L* **30** # 2773
Lin, Rujian Shanghai Luster Terab

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

There is no NOTES for Table 75C-3.

*SuggestedRemedy*

Add Notes to Table 75C-3 properly. Note that for PRX unstream high jitter frequancy will be different from 4 MHz.

*Response* *Response Status* **C**

"REJECT.
[changed fm clause ""Annex"" to 75C]
[added subclause number]
[page and line numbers were fixed, was against D2.1 clean version, p 108, ln 41]
It was decided during the last meetings that there are no NOTEs necessary for this table, thus their deletion."

*Cl* **76** *SC* **76** *P* **145** *L* **9** # 2514
Remein, Duane Alcatel-Lucent

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

"random "":""""

*SuggestedRemedy*

remove

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Belong with text of 1st note.

*Cl* **76** *SC* **76.1.2** *P* **150** *L* **5** # 2515
Remein, Duane Alcatel-Lucent

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

"An ""an"" s/b an ""a"": ""... using an 10/1G-EPON ..."""

*SuggestedRemedy*

"Change to: ""... using a 10/1G-EPON ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.2.3** *P* **150** *L* **45** # 2655
Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

"All references to ""dual rate"" are hyphenated. This one should be as well."

*SuggestedRemedy*

"Change ""Duale rate"" to ""Dual-rate""."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change ""Dual rate"" to ""Dual-rate"""

*Cl* **76** *SC* **76.1.2.3** *P* **150** *L* **46** # 2569
Kramer, Glen Teknovus, Inc.

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

"In subclause title ""dual rate"" should be hyphenated"

*SuggestedRemedy*

per above

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.3** *P* **153** *L* **15** # 2516
Remein, Duane Alcatel-Lucent

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

"What doe ""Correspondingly, only one PLS_DATA.PLS_DATA request primitive is active at any time."" correspond to?"

*SuggestedRemedy*

"Change to ""Only one PLS_DATA.PLS_DATA request primitive is active at any time."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.3** *P* **153** *L* **15** # 2570
Kramer, Glen Teknovus, Inc.

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

PLS_DATA.request has lost its dot

*SuggestedRemedy*

per above

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.3.2** *P* **116** *L* **40** # 2776

Lin, Rujian Shanghai Luster Terab

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

"For delay constraint, ""a combined delay variation through RS, PCS and PMA sublayers of no more than 1 time_quantum "" is specified.
If is it necessary to specify the total delay, not only the delay variation?"

*SuggestedRemedy*

Specify the total delay.

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Only delay variation effect the accuracy of time stamps. Total delay through the sub-layers can be considered part of propagation delay.

*Cl* **76** *SC* **76.1.3.2** *P* **153** *L* **45** # 2571

Kramer, Glen Teknovus, Inc.

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

"Missing whitespace after "")"""

*SuggestedRemedy*

per above

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.3.2** *P* **153** *L* **45** # 2759

Kozaki, Seiji Mitsubishi Electric

*Comment Type* **T** *Comment Status* **R** *'TO BE PROCESSED], Delay*

Current delay value through RS, PCS and PMA of 1TQ for each transmitting and receiving is wrong.

*SuggestedRemedy*

The value should be 2TQ for each transmitting and receiving.

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **76** *SC* **76.1.6.1.6** *P* **103** *L* **30** # 202256

Ganga, Ilango Intel

*Comment Type* **ER** *Comment Status* **A** *, Else*

Update state diagram with conventions/notations defined in 1.2 (also see 21.5).

Replace else statement, pseudo code, etc., with appropriate logic.

Applies to Fig 76-5, Fig 76-10, Fig 76-11, Fig 76-19

*SuggestedRemedy*

As per comment

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

ACCEPT.
At November 2008, the state diagram Fig 76-10, Fig 76-11 and Fig 76-19 were modified to address the comment. Figure 76-5 was removed from the draft at September 2008 meeting in Seoul.

*Cl* **76** *SC* **76.1.6.2** *P* **160** *L* **11** # 2558

Daido, Fumio Sumitomo Electric Ind

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

The upper value of the reserved LLID is not 0x7FED.
3av_0809_kramer_4.pdf was accepted against Draft2.0 at the last meeting..

*SuggestedRemedy*

"replace ""0x7FED - 0x7F00""  with ""0x7FFD - 0x7F00""."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.6.2.3.2** *P* **160** *L* **42** # 2517

Remein, Duane Alcatel-Lucent

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

Lost all reference to Table 76-4.

*SuggestedRemedy*

"Add reference after phrase ""A number of LLIDs have been reserved (see Table 76-4) ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.1.6.2.3.3** *P* **160** *L* **11** # 2661

Hajduczenia, Marek ZTE Corporation

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

Comment #2120 was not implemented correctly. In 3av_0809_kramer_4.pdf, the range of the LLIDs receiver for the future spans from 0x7F00 to 0x7FFD. For some reason, it is 0x7F00 - 0x7FED in the draft (no indication of any intention changes is recorded in the 3av_0809_comments_d2_0_notes.pdf or 3av_0809_comments_d2_0_accepted.pdf.

*SuggestedRemedy*

"Replace ""0x7F00 - 0x7FED"" with ""0x7F00 - 0x7FFD"" to make the range continous"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **76** *SC* **76.2.1.1** *P* **119** *L* **52** # 2786

Lin, Rujian Shanghai Luster Terab

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

...specification from 10GBASE-PR and 1000BASE-PX PCS.....

*SuggestedRemedy*

"Modified to ""..specification from 10GBASE-PR PCS and 1000BASE-PX PCS....."

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **76** *SC* **76.2.1.1** *P* **160** *L* **39** # 2651

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **R**

Extra large space between sections ...

*SuggestedRemedy*

Clear it if such spaces exist in the regular draft file.

*Response* *Response Status* **C**

REJECT.
It doesn't.

---

*Cl* **76** *SC* **76.2.1.1** *P* **161** *L* **36** # 2692

Dawe, Piers Avago Technologies

*Comment Type* **ER** *Comment Status* **A**

Font too small, spurious capitals. There is enough space here to use the right font size.

*SuggestedRemedy*

Change 'RECONCILIATION' to 'Reconciliation Sublayer' (or 'RS'). Change the 7 point type to 8 point. Also Fig 76-5.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change the 7 point type to 8 point in both figures. Awaiting WG chair's directive on capitalization in layering diagrams

*Cl* **76** *SC* **76.2.1.3** *P* **162** *L* **32** # 2518

Remein, Duane Alcatel-Lucent

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

"Conventions, Conventions, Conventions ...
The phrase ""The notation used in state diagrams follow the conventions of 21.5."" or something like this is used is 4 separate subclauses in c76. Given that we need to introduce the clause with a ""General"" paragraph it is suggested that all verbiage addressing ""conventions"" be move to the introductory material."

*SuggestedRemedy*

"Move subclause heading and text at 76.2.1.3 Pg 162 ln 32 to new subclause 76.1.1, reword to apply to all of c76:
""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. Should there be a discrepancy between a state diagram and descriptive text, the state diagram prevails. The notation ++ after a counter indicates it is to be incremented by 1. The notation -- after a counter indicates it is to be decremented by 1. The notation -= after a counter indicates that the counter value is to be decremented by the following value. The notation += after a counter indicates that the counter value is to be incremented by the following value. Code examples given in this clause adhere to the style of the ""C"" programming language.""

Remove ""convention"" text at the following locations:
Pg 179 ln 26 - remove paragraph
Pg 196 ln 25 - remove paragraph
Pg 200 ln 13 - remove paragraph"

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Move subclause heading and text at 76.2.1.3 Pg 162 ln 32 to new subclause 76.1.1, ""Conventions""
with the following text:
""The notation used in the state diagrams in this clause follows the conventions in 21.5. Should there be a discrepancy between a state diagram and descriptive text, the state diagram prevails. The notation ++ after a counter indicates it is to be incremented by 1. The notation -- after a counter indicates it is to be decremented by 1. The notation -= after a counter indicates that the counter value is to be decremented by the following value. The notation += after a counter indicates that the counter value is to be incremented by the following value. Code examples given in this clause adhere to the style of the ""C"" programming language."""

*Cl* **76** *SC* **76.2.1.3** *P* **162** *L* **37** # 2712

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *C Code*

"Draft says 'Code examples given in this clause adhere to the style of the ""C"" programming language.' This is a particularly bad choice, because C is notorious for being too cryptic and compact. D2.0 comment 1962 pointed out that the standard is supposed to be written in English, or state machine notation, or, only when desperate, specified programming languages with references so that the reader can find what the syntax actually means (Pascal and Matlab have been used and are MUCH more readable), and that code should if possible be executable by a machine."

*SuggestedRemedy*

Be sure that you state anything the reader needs to know, preferably in words, failing that in state diagrams, Pascal or Matlab. Avoid short fragments. Say which takes precedence if English and pseudo-code disagree.

*Response* *Response Status* **U**

"REJECT.
1) The task force pays strong attention to clarity and readability of the produced draft.
2) Many studies show that today, programming language ""C"" is the most popular language. For example, see http://www.langpop.com/
3) C-style notation was adopted by many other programming environments, for example, Verilog. The TF believes that the C-style notation would be easiest to understand to a largest fraction of potential standard users.
4) Pascal was developed in 1968 and its popularity peaked around 1980. Since then, both popularity and user base of Pascal has been continuously shrinking. Today, Pascal's popularity is far behind C. In fact, studies show it to be in the same category with languages like Delphi, Ada, Scheme. Again, please, refer to http://www.langpop.com/.
5) Pascal programming language is no longer a mandatory course in computer science curriculum (for about 10-15 years now) while C programming language is widely studied. Pascal constructs today may appear unclear and confusing to many engineers who graduated in the past decade.
6) The IEEE Style Manual places no requirements of which programming language to use.
7) The task force believes that the draft development should reflect objective realities of technology development and evolution. Continued use of Pascal language in the draft will make a negative impression on potential users of the standard. The standard may unnecessarily be perceived as obsolete, not being in sync with modern technologies, and may turn potential users to use alternative
standards developed by other SDOs.
8) Use of ""C"" language is consistent with code examples given in other projects for example see clause 61A.3."

*Cl* **76** *SC* **76.2.2** *P* **163** *L* **46** # 2519

Remein, Duane Alcatel-Lucent

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

"Thos slippery conjunctions:
""mode in transmit direction"""

*SuggestedRemedy*

"Change to ""mode in the transmit direction"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.1** *P* **121** *L* **43** # 2787

Jeff Stribling Salira Systems, Inc.

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

Given the existence of essential patent claims for the mechanism of start-of-packet alignment at the ONU, the task force should reevaluate the merits of having this function in the draft.

*SuggestedRemedy*

"Remove the mechanism of start-of-packet alignment from the draft."""

*Response* *Response Status* **C**

REJECT.

IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, or for conducting inquiries into the legal validity or scope of Patents Claims.

No discussions or other communications regarding the essentiality, interpretation, or validity of patent claims shall occur during IEEE-SA working group standards-development meetings or other duly authorized IEEE-SA standards-development technical activities.

The Working Group chair is following the IEEE process and requesting an LOA from the holder of the potentially essential patent claims.

*Cl* **76** *SC* **76.2.2.1.1** *P* **164** *L* **50** # 2657

Hajduczenia, Marek ZTE Corporation

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

"Constant ""MinIpg"" is not used any more after changes to Figure 76-10 and 76-11"

*SuggestedRemedy*

"Remove ""MinIpg"" constant and associated definition."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.1.1** *P* **164** *L* **50** # 2594

Kramer, Glen Teknovus, Inc.

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

MinIPG constant is not used anymore.

*SuggestedRemedy*

"Remove the constant definition from subclause ""76.2.2.1.1 Constants"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.1.5** *P* **169** *L* **1** # 2586

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *IdleCount 76-9*

"Refer to state diagram in Figure 76-9;

Per comment 2414 from September 08 meeting, we removed condition ""IdleCount >= MinIpg"" from Fig 76-9. This was the only use of IdleCount in this state diagram. Corespondingly, we don't need to maintain IdleCount in this state diagram anymore."

*SuggestedRemedy*

Remove IdleCount from the state diagram. Use the updated stae diagram as shown in 3av_0811_kramer_1.pdf

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.1.5** *P* **169** *L* **20** # 2660

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *IdleCount 76-9*

IdleCount is incremented / decremented and assigned in the diate diagram though it is not used in any logical conditions. State diagram 76-9 needs to be updated accordingly by dropping IdleCount and replacing it with state diagram suggested in 3av_0811_hajduczenia_1.pdf

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment #2586

*Cl* **76** *SC* **76.2.2.1.5** *P* **170** *L* **1** # 2788

Marek Hajduczenia

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

ONU Idle Deletion state diagram per Figure 76-10 can be significantly simplified by removing Start of Packet alignment mechanism without substantial performance degradation (at most 0.07% per 3av_0705_kramer_1.pdf).

*SuggestedRemedy*

Introduce changes to Clause 76 per 3av_0811_hajduczenia_6.pdf. Page 1 presents elements of Figure 76-10 which can be removed, page 2 presents updated Figure 76-10, remaining pages list editorial changes to the draft necessary to satisfy this comment.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Apply changes per 3av_0811_hajduczenia_6.pdf.
For tx_raw definition point back to 49.2.13.2.2.

I accept this response:
Yes: 10
No: 4
Abstain: 12

Propose Reject
Yes: 3
No: 7
Abstain: 18

[Recorded 13.11.2008]
I accept this response:
Yes: 16
No: 2
Abstain: 18

Motion passes.

*Cl* **76** *SC* **76.2.2.1.5** *P* **170** *L* **1** # 2593

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *Fig 76-10*

"Few issues in state giagram 76-10:

1) in state CLASSIFY_VECTOR_TYPE, ""DelectCount"" should be ""DelCount""
2) T_TYPE function expects a 72-bit vector and should not be used on a 36-bit column? Previously, we had ""C_TYPE()"" defined for that, but it was delected in D2.1.
3) Assigning a column to ""Idle"" is undefined and ambiguous.
4) Do we want to remove ""if"" constucts from state code and use states and transitions instead (per comment 202256)?"

*SuggestedRemedy*

"1) Replace ""DelectCount"" with ""DelCount""

2) Replace ""T_TYPE"" (ONLY INSIDE STATE CLASSIFY_VECTOR_TYPE) with ""C_TYPE"". Add definition of C_TYPE to subclause ""76.2.2.1.3 Functions"". (Use the definition given in D2.0, subclause 76.1.6.1.5).

3) Replace ""Idle"" with ""IDLE_COLUMN"". Add the following definition to subclause ""76.2.2.1.1 Constants""
IDLE_COLUMN
TYPE: 36-bit binary
This constants represents a 36-bit column (one XGMII transfer) containing four Idle characters.

4) If we agree to remove ""if"" constructs from C76 (3 state diagrams are affected), replace state diagrams 76-9, 76-10, and 76-21 with functionally-equivalent diagrams given in 3av_0811_kramer_1.pdf."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.1.5** *P* **170** *L* **16** # 2743

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *Fig 76-10*

"Figure 77-10 contains an unknown variable called ""DelectCount"" - should it be ""DelCount"" by any chance ?"

*SuggestedRemedy*

"If so, please replace ""DelectCount"" with ""DelCount"". Otherwise, define what ""DelectCount"" is"

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #2593

*Cl* **76** *SC* **76.2.2.1.5** *P* **170** *L* **17** # 2757
Kozaki, Seiji Mitsubishi Electric

*Comment Type* **E** *Comment Status* **A** *BE PROCESSED], Fig 76-10*

There is a wrong term with DelectCount.

*SuggestedRemedy*

"The term should be ""DelCount""."

*Response* *Response Status* **C**

ACCEPT.
See resolution to comment #2593

*Cl* **76** *SC* **76.2.2.4** *P* **171** *L* **11** # 2520
Remein, Duane Alcatel-Lucent

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

"The statement: ""The 10G-EPON links shall use the Reed-Solomon code (255, 223) for FEC encoding."" is incorrect for all links that fall under the definition of 10G_EPON (as some are 1 Gb/s).

Also in 76.2.3.3 ""The 10G-EPON links shall use the Reed-Solomon code (255, 223) for FEC decoding."""

*SuggestedRemedy*

"Change in 76.2.2.4 to:
""The 10G-EPON links that operate at 10 Gb/s shall use the Reed-Solomon code (255, 223) for FEC encoding.""

Change in 76.2.3.3 to:
""The 10G-EPON links that operate at 10 Gb/s shall use the Reed-Solomon code (255, 223) for FEC decoding."""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.

Change in 76.2.2.4 to:
""The 10/10G-EPON shall use the Reed-Solomon (255, 223) code for FEC encoding in both upstream and downstream directions. The 10/1G-EPON shall use the Reed-Solomon (255, 223) code for FEC encoding in the downstream direction.""
Change in 76.2.3.3 to:
""The 10/10G-EPON shall use the Reed-Solomon (255, 223) code for FEC decoding in both upstream and downstream directions. The 10/1G-EPON shall use the Reed-Solomon (255, 223) code for FEC decoding in the downstream direction."""

*Cl* **76** *SC* **76.2.2.4.1** *P* **113** *L* **17** # 201948
Dawe, Piers Avago

*Comment Type* **TR** *Comment Status* **A** *, FEC_Formula*

Explain what x is - or avoid this kind of language

*SuggestedRemedy*

Per comment

*Response* *Response Status* **C**

ACCEPT.
See resolution to comment #2715.

*Cl* **76** *SC* **76.2.2.4.1** *P* **113** *L* **17** # 202376
Law, David 3Com

*Comment Type* **ER** *Comment Status* **A** *, FEC_Formula*

Please follow subclause 17.3 'Presentation of equations' found in the IEEE-SA Style Manual [http://standards.ieee.org/guides/style/section6.html#915 ].

*SuggestedRemedy*

Need to define the following by adding to the 'where:' list:

G(x) and x

Similarly, the equations on lines 21, 27 and 29 should add a 'where:' list and need to define all variables, functions and vectors - for example on line 21 L(x) is used but not defined.

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

ACCEPT IN PRINCIPLE.
See comment #2715.

*Cl* **76** *SC* **76.2.2.4.1** *P* **113** *L* **23** # 201951
Dawe, Piers Avago

*Comment Type* **TR** *Comment Status* **A** *, FEC_Formula*

Explain what L is

*SuggestedRemedy*

Per comment

*Response* *Response Status* **C**

ACCEPT.
See resolution to comment #2715.

*Cl* **76** *SC* **76.2.2.4.1** *P* **171** *L* **22** # 2715

Dawe, Piers Avago Technologies

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

"In the response to D2.0 comment 2376 you claim that
G(x) = ... is not an equation used for calculation. I don't believe you. Obviously it is an equation, so the style manual applies. If the equations in 76.2.2.4.1 are just window dressing then there is no definition for FEC encoding, as Annex 76A, though very welcome, is only an example and is informative. All we have for normative text is this in 76.2.2.4.2: 'The FEC encoder then prepends 29 ""0"" padding bits to the 27 twenty-seven 65-bit blocks to form the 223-byte payload portion of an FEC codeword. This data is then FEC-encoded, resulting in the 32-byte parity portion of the FEC codeword.' OK, so where is the normative definition for 'data is FEC-encoded'? As I pointed out in D2.0 comment 1959, it's missing."

*SuggestedRemedy*

Add a section with a blow-by-blow recipe for creating the parity portion. You might make use of the equations in 76.2.2.4.1. Explain what x is and what L is.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See proposal in 3av_0811_hirth_3.pdf

*Cl* **76** *SC* **76.2.2.4.2** *P* **114** *L* **41** # 201959

Dawe, Piers Avago

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

"This data is then FEC-encoded, resulting in the 32-byte parity portion of the FEC codeword. Apart from some waffly jargon in 76.2.2.4.1, there is no information given for how to create the parity. This standard is supposed to be unambiguous, and in English (or state machine notation). It's not a patent; it needs to be intelligible to customers and testers, not just those very ""skilled in the art""."

*SuggestedRemedy*

Add a section with a blow-by-blow recipe for creating the parity portion.

*Response* *Response Status* **C**

ACCEPT.
See comment #2715 for resolution.

*Cl* **76** *SC* **76.2.2.4.2** *P* **173** *L* **37** # 2572

Kramer, Glen Teknovus, Inc.

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

"Inconsistent number representation
line 37: ""27 of these 66-bit blocks""
line 40: ""prepends 29 ""0"" padding bits""
line 40: ""twenty-seven 65-bit blocks"""

*SuggestedRemedy*

Either write down all numbers or use digits for all.
Also make consistent with text in 76A.4

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change sentence from:
""The FEC encoder then prepends 29 ""0"" padding bits to the 27 twenty-seven 65-bit blocks to form the 223-byte payload portion of an FEC codeword.""
To:
""The FEC encoder then prepends 29 padding bits (binary 0) to the 27 blocks (65-bits each) to form the 223-byte payload portion of an FEC codeword."""

*Cl* **76** *SC* **76.2.2.4.3** *P* **116** *L* **5** # 201960

Dawe, Piers Avago

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

"You say ""The FEC encoder prepends a 2 bit sync header to each group of 64 parity bits to construct a properly formed 66-bit codeword"""

*SuggestedRemedy*

But you don't say in which order the bits and bytes are transmitted. Add that information, relating it to blocks 1 to 4 in Fig 76-13.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Replace Figure 76-11 with that presented in 3av_0811_hajduczenia_7.pdf.

*Cl* **76** *SC* **76.2.2.5** *P* **176** *L* **47** # 2573

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *Ton/Toff*

"Figure 76-13 uses ""LaserON"" and ""LaserOFF""
Figure 76-14 uses ""Laser On"" and ""Laser Off""
Figure 76-15 uses ""T-on"" and ""T-off""

Use uniform naming"

*SuggestedRemedy*

"1) Suggest using Ton and Toff (""on"" and ""off"" subscripted) in three figures above
2) Use the same name notation in subclause 76.3.2.1.1.
3) Use the same name notation in tables 75-8 and 75-9."

*Response* *Response Status* **C**

"ACCEPT.
Impacts c76 & c75
[Changed from ""E"" to ""T""]
[moved from c76 to c00]"

*Cl* **76** *SC* **76.2.2.5** *P* **176** *L* **51** # 2654

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *Ton/Toff*

"Compare figures 76-13, 76-14 and 76-15 and the use of laser on / off terms:
76-13: laserON, laserOFF
76-14: laser On, laser Off
76-15: T-on, T-off
Use only one term, e.g. ""laserON"" and ""laserOFF"", where ON and OFF is subscripted"

*SuggestedRemedy*

As per comment.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment #2573

*Cl* **76** *SC* **76.2.2.5** *P* **178** *L* **11** # 2521

Remein, Duane Alcatel-Lucent

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

EOB not defined

*SuggestedRemedy*

"Define in line 38, to read:
""The ONU burst transmission ends with an END_BURST_DELIMITER (EOB) pattern of length ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.5** *P* **178** *L* **7** # 2760

Kozaki, Seiji Mitsubishi Electric

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

In Figure 76-14, Burst Delimiter is in Sync Time area.

*SuggestedRemedy*

SyncTime and BurstDelimiter should be in a different area.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
On Page 180 line 33 ""SyncLength"" definition: after ""syncTime"" insert "" (excluding BURST_DELIMITER)"""

*Cl* **76** *SC* **76.2.2.5** *P* **179** *L* **21** # 2716

Glen Kramer Teknovus

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

To ensure the start of a burst aligns to lane 0 of the XGMII, the PCS is extended to allow removal of leading Idle control characters
The above sentence is technically incorrect. First, this text talks about Idle Deletion state machine, which in ONU aligns /S/ character not just to lane 0 of XGMII transfer, but to lane 0 of column 0 of a 72-bit vector (as was already explained on page 163, line 38). Second, while the state machine does delete idle vectors to accomodate parity, to do the alignment of the /S/ character it actually insers one idle column (4 bytes), not deletes it.

*SuggestedRemedy*

"Replace the above sentence with the following: ""To ensure the start of a burst aligns to lane 0 of column 0, the Idle Deletion process may insert one column consisting of Idle characters, as explained in 76.2.2.1."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.2.5.1** *P* **179** *L* **51** # 2742

Ben-Amram, Haim PMC-Sierra

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

"In previous discussions, it was agreed that using consecutive '1' followed by consecutive '0' pattern for AGC and 1010. pattern for CDR can speed 10G upstream locking significantly.

Consequently, it's most reasonable to separate the Sync Pattern (76.2.2.5.1 Constants paragraph line.50) into ""Gain Pattern""(for AGC) and ""Sync Pattern""(for CDR)"

*SuggestedRemedy*

"In section 76.2.2.5.1 Constants, define a ""Gain Pattern"" as: 10 followed by 0x FF FF FF 00 00 00 C5 49 (10 1111 1111 1111 1111 1111 1111 0000 0000 0000 0000 0000 0000 0011 1010 0010 1001) and ""Sync Pattern"" as: 0x 55 55 55 55 55 55 55 55 (10 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010 1010).

Adding ""Gain Time"" to:
Page 131 ' Figure 76-14
Page 190 ' lines 6, 17, 26,
Page 191 ' line 6
Page 194 ' lines 28, 39
Page 198 ' lines 14, 22
Page 215 ' line 27
Page 216 ' lines 40, 52
Page 222 ' lines 14, 35
Page 223 ' line 26
Page 224 ' line 19

Revert to the Burst Delimiter designed for Hamming Distance from the 1010... pattern.

In the data detector, add an additional state which transmits the Gain Pattern for the amount of time indicated by Gain Time.

In Figure 76-17 line 13, need to add additional state for Gain Pattern (see slide)"

*Response* *Response Status* **C**

REJECT.
The selected sync pattern is deamed a reasonable compromise to achiev both gain setting and synchronization.
[changed subclause from blank to 76.2.2.5.1, Page from 132 to 179 and Line from 50 to 51]
TF Vote:
1) Reject this comment (no change to Draft). 19
2) Implement Suggested Remedy (Change Draft). 4

*Cl* **76** *SC* **76.2.2.5.3** *P* **120** *L* **1** # 201962

Dawe, Piers Avago

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

This standard is supposed to be written in English, or state machine notation, or, only when desperate, specified programming languages with references so that the reader can find what the syntax actually means (Pascal and Matlab have been used), and that code should if possible be executable by a machine. You can't just insert snippets of unattributed pseudo-code in I don't know what syntax.

*SuggestedRemedy*

If this pseudo-code fragment says anything that the preceding sentence doesn't, replace it with another sentence, in English. If it doesn't, delete it. Similarly in 76.2.3.1.3, 76.2.3.3.3

*Response* *Response Status* **U**

"ACCEPT IN PRINCIPLE.
Insert at end of 76.1.6.1.4
""Code examples given in c76 adhere to the style of the ""C"" programming language.""
Move 76.1.6.1.4 to new subclause 76.2.1.3"

*Cl* **76** *SC* **76.2.2.5.3** *P* **181** *L* **5** # 2713

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *C Code*

"Does this pseudo-C fragment say anything that the sentence above doesn't? It uses three sorts of brackets; what does this signify?"

*SuggestedRemedy*

Delete this fragment

*Response* *Response Status* **U**

REJECT.
See response to comment #2712

*Cl* **76** *SC* **76.2.3.1.1** *P* **188** *L* **6** # 2574

Kramer, Glen Teknovus, Inc.

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

"Missing hyphen in ""66 bit"""

*SuggestedRemedy*

add hyphen

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.3.1.2** *P* **187** *L* **32** # 2704

Dawe, Piers Avago Technologies

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

Draft says
'sh_cnt
This counter is inherited from 49.2.13.2.4.'
49.2.13.2.4 says
'sh_cnt
Count of the number of sync headers checked within the current 64 block window.'
Are we dealing with 64-block windows here or 31-block codewords?

*SuggestedRemedy*

If the latter, it's not the same sh_cnt

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Replace all instances of ""sh_cnt"" with ""sh_wndw_cnt"" (to avoid confusing with c49 sh_cnt)
Change:
""This counter is inherited from 49.2.13.2.4.""
To:
""Count of the number of sync headers checked within the current 62 block window (composed of 2 codewords of 31 blocks each).""""

*Cl* **76** *SC* **76.2.3.1.3** *P* **187** *L* **40** # 2714

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *C Code*

As far as I can see, all this pseudo-C fragment says that the sentence above doesn't, is that only the first 27 blocks are appended into the input buffer.

*SuggestedRemedy*

Say that in words and delete this fragment. Similarly with the next three fragments.

*Response* *Response Status* **U**

REJECT.
See response to comment #2712

*Cl* **76** *SC* **76.2.3.3** *P* **193** *L* **33** # 2705

Dawe, Piers Avago Technologies

*Comment Type* **T** *Comment Status* **R** *FEC Correction Mode*

I believe that a lot of the power taken by FEC goes on error correction (the stage beyond error detection). A receiver that is happy with its received BER can switch the correction off, with no need for handshaking with the transmitter. This still gives excellent error detection, and remains compatible with PCS error indication.

*SuggestedRemedy*

Change
The FEC decoder corrects or confirms the correctness of the twenty-seven 66-bit blocks contained in the FEC codeword based on the four 66-bit blocks of parity information.
to
In the default mode of operation, the FEC decoder corrects or confirms the correctness of the twenty-seven 66-bit blocks contained in the FEC codeword based on the four 66-bit blocks of parity information. If FEC error correction is disabled, the FEC decoder confirms the correctness of the FEC codeword but does not attempt to correct the FEC codewords.

*Response* *Response Status* **C**

REJECT.
An implementation which wishes to save power in this manner may choose to silently disable the FEC Correction block as long as the implementation complies with the standard.

*Cl* **76** *SC* **76.2.3.3** *P* **193** *L* **36** # 2691

Dawe, Piers Avago Technologies

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

bit <0> ... bit <1>

*SuggestedRemedy*

bit 0 ... bit 1

*Response* *Response Status* **C**

"ACCEPT.
[changed from ""E"" to ""T""]"

*Cl* **76** *SC* **76.2.3.3.3** *P* **195** *L* **53** # 2559

Feng, Dongning Huawei Technologies

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

"The Read_outbuffer(i) C code and the corresponding text in p194, ""If the variable decode_failures is set to be 1, then all each sync headers for header of the received payload blocks of in the FEC codeword is set to take a value of {SH.0,SH.1} = binary 00."" does not match."

*SuggestedRemedy*

Change the C code as the following,

```
Read_outbuffer[i]
    {
    int offset = 29+i*65
       for(j=0, j<65, j++)
          {
          rx_coded_corrected<j+1> = outbuffer[j+offset]
          }
       if (!decode_success AND mark_uncorrectable)
          {

          rx_coded_corrected<1>=0
          rx_coded_corrected<0>=rx_coded_corrected<1>
          }
       else
          {
          rx_coded_corrected<0>=!rx_coded_corrected<1>
          }
    BlockToDescrambler()
    }
```

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #2662

*Cl* **76** *SC* **76.2.3.3.3** *P* **196** *L* **1** # 2662

Hajduczenia, Marek ZTE Corporation

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

"The pseudo code of the Read_outbuffer[i] function has a few issues with it:
(1) on page 194, lines 53-54 we say that ""If the variable decode_failures is set to 1, then each sync headers for header of the received payload blocks in the FEC codeword is set to a value of binary 00."". Yet, in Read_outbuffer[i] function we use ""!decode_success"" variable
(2) it would make much more sense (and much safer) if the missing bit [0] in the SH was constructed explicitly instead of implictly."

*SuggestedRemedy*

"(1.a) change ""if (!decode_success AND mark_uncorrectable)"" to ""if (decode_failures >= 1 AND mark_uncorrectable)""
(1.b) Change ""If the variable decode_failures is set to 1, then each sync headers for header of the received payload blocks in the FEC codeword is set to a value of binary 00."" to ""If the decode_failures counter is greater or equal to 1, each sync headers for header of the received payload blocks in the FEC codeword is set to a value of binary 00.""
(2.a) Change ""rx_coded_corrected<0>=rx_coded_corrected<1>"" to
""rx_coded_corrected<0> = 0
rx_coded_corrected<1> = 0""
(2.b) Change ""rx_coded_corrected<0>=!rx_coded_corrected<1>"" to
""rx_coded_corrected<0> = 0
rx_coded_corrected<1> = 1""""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
At page 194 line 53:
Replace ""decode_failures"" with ""decode_success"" (2 places) and change ""1"" to ""0"" (1 place).
(2) On page 196 line 9 Change ""rx_coded_corrected<0>=rx_coded_corrected<1>"" to
""rx_coded_corrected<0> = 0
rx_coded_corrected<1> = 0""""

*Cl* **76** *SC* **76.2.3.3.3** *P* **196** *L* **47** # 2522

Remein, Duane Alcatel-Lucent

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

"Shall without PICS
""BlockToDescrambler
Function that sends the next rx_coded_corrected<65:0> block to the descrambler. It does not return until the transfer is completed, and each transfer shall take 6.4 ns and be synchronized to the XGMII clock."""

*SuggestedRemedy*

"Replace ""shall"" with ""should"" or add PICS
FE5, BlockToDescrambler timing, 76.3.3.3, transfer each 6.4 ns synchronized to XGMII clock, FEC:M, Yes[] No[]"

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change end of last sentence to ""each transfer takes 6.4 ns and is synchronized to the XGMII clock."""

*Cl* **76** *SC* **76.2.3.4** *P* **197** *L* **28** # 2747

Mandin, Jeff PMC Sierra

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

*SuggestedRemedy*

"Change:

""This BER monitor records errors that exist prior to the FEC function""

to

""The BER Monitor function operates on the uncorrected incoming data stream"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.3.7.2** *P* **200** *L* **45** # 2587

Kramer, Glen Teknovus, Inc.

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

RX_CLK incorrectly points to TX_CLK in clause 46.
Should be RX_CLK. Refernce to 46.3.2.1 is correct.

*SuggestedRemedy*

"Use the following definition:

""This variable represents the RX_CLK signal defined in 46.3.2.1"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.2.3.7.5** *P* **202** *L* **6** # 2592

Kramer, Glen Teknovus, Inc.

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

In state diagram 76-23, IDLE_VECTOR is used without being defined

*SuggestedRemedy*

Add the following definition to subclause 76.2.3.7.1 Constants:

IDLE_VECTOR
TYPE: 72-bit binary
This constant represents a 72-bit vector containing Idle characters. It is formed by concatenating two IDLE_COLUMNS, as defined in 76.2.2.1.1.

[Note to editors: see another comment regarding IDLE_COLUMN]

*Response* *Response Status* **C**

"ACCEPT.
[""Other comment is #2593]"

*Cl* **76** *SC* **76.3.2.1** *P* **203** *L* **27** # 2523

Remein, Duane Alcatel-Lucent

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

"Removed one ""and frequency"" but left a second:
""... receiver settling time to the moment when the phase and frequency are recovered and jitter is maintained for ...""
replace ""and frequency are"" with ""is"""

*SuggestedRemedy*

"replace ""and frequency are"" with ""is"" so statement reads:
""... receiver settling time to the moment when the phase is recovered and jitter is maintained for ...""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.3.2.1.1** *P* **203** *L* **35** # 2774

Lin, Rujian Shanghai Luster Terab

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

The text from line 27 to line 44 is difficult to read.
Propose to rewrite the text from line 27 to line 36 as below and delete the text from line 37 to line 44.

*SuggestedRemedy*

Rewrite the text from line 27 to line 36 as:
Test of OLT PMA TCDR time assumes that there are a PMD transmitter at the ONU with well known TON time as defined in Figure 75.7.15 and a PMD receiver at the OLT withwell known Treceiver_setting time as defined in 60.7.13.2. After TON +Treceiver_setting time, the electrical signal phase and frequency at TP8 reach within
15% of their steady state values.
Measure TCDR as the time from the TX_ENABLE assertion, minus TON +Treceiver_setting time, to the time the electrical signal at the output of the receiving PMA reaches up to the phase difference from the input signal of the transmitting PMA assuring BER of 10-3 and maintaining jitter specifications. The signal throughout this test is the synchronous pattern, as defined in Figure 76-14.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change line 35 - 45 to:
""The test of the OLT PMA receiver TCDR time assumes that there is an optical PMD transmitter at the ONU with well known TON time as defined in Figure 75.7.15, and an optical PMD receiver at the OLT with well-known Treceiver_settling time as defined in 60.7.13.2. When TON + Treceiver_settling time, the parameters at TP8 reach within 15% of their steady state values, measure TCDR as the time from the TX_ENABLE assertion, minus the TON + Treceiver_settling time, to the time the electrical signal at the output of the receiving PMA reaches up to the phase difference from the input signal of the transmitting PMA assuring BER of 10-3, and maintaining its jitter specifications. The signal throughout this test is the synchronization pattern, as illustrated in Figure 76-14.""
Remove lines 47-54.
[Changed page from 153 to 203]
[Changed from line 2744 to 35]"

*Cl* **76** *SC* **76.4.4.5** *P* **209** *L* **7** # 2754

Mandin, Jeff PMC Sierra

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

*SuggestedRemedy*

"Change ""Alignment and Idle Detection"" to ""Idle deletion"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **76** *SC* **76.4.4.6** *P* **210** *L* **14** # 2751
Mandin, Jeff PMC Sierra

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

"The status field of several PICS improperly uses ""FEC"" as a conditional (See conventions for PICS statements in section 21.6)"

*SuggestedRemedy*

"Change the status field from ""FEC:M"" to ""M"" in the following PICS:

- FE1, FE2, FE3, FE4

- SM1, SM2, SM3, SM4, SM5"

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Also change ""FEC:O"" to ""O"" (FE3)
(keep OLT or ONU as appropriate.)"

---

*Cl* **76** *SC* **76.4.4.6** *P* **210** *L* **16** # 2752
Mandin, Jeff PMC Sierra

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

PICS FE1 and FE2 refer to the specifics of encoding and decoding functions

*SuggestedRemedy*

"* Change ""FEC Encoding Choice"" to ""FEC Encoder"".

* Change ""FEC Decoding Choice"" to ""FEC Decoder"".

* Delete the PICS titled *FEC from page 205 line 40 as it is now redundant."

*Response* *Response Status* **C**

"ACCEPT.
[changed clause from ""210"" to 76]"

---

*Cl* **76** *SC* **76.4.4.7** *P* **211** *L* **3** # 2749
Mandin, Jeff PMC Sierra

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

PICS SM4 seems to be a composite of text already present in other PICS

*SuggestedRemedy*

Delete PICS SM4

*Response* *Response Status* **C**

ACCEPT.
(Renumber below)

---

*Cl* **76** *SC* **76.4.4.7** *P* **211** *L* **5** # 2750
Mandin, Jeff PMC Sierra

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

PICS SM5 refers to the Decoding state diagram, not the decoder itself

*SuggestedRemedy*

"In SM5, change title field from ""FEC Decoder"" to ""FEC decoding process""."

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **76A** *SC* **76A** *P* **213** *L* **54** # 2524
Remein, Duane Alcatel-Lucent

*Comment Type* **ER** *Comment Status* **A**

Need URL

*SuggestedRemedy*

ID URL, insert per Ed. Note and remove Ed Note.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Use ""http://www.ieee802.org/3/av/online_resources/"""

---

*Cl* **76A** *SC* **76A** *P* **214** *L* **37** # 2575
Kramer, Glen Teknovus, Inc.

*Comment Type* **E** *Comment Status* **A** *C BE PROCESSED], UC Hex*

Table 76A-1 uses lower case hexadecimal notation.
Tables 76A-4, 76A-5, and 76A-6 use upper case hex notation.

*SuggestedRemedy*

Use uniform notation

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Change 76A-1 to upper case notation.

*Cl* **76A** *SC* **76A.2** *P* **214** *L* **30** # 2652
Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **A** *Ↄ BE PROCESSED], UC Hex*

Inconsistent hex number format throughout the draft. In all other locations (and other clauses) we use uppercase hex values. Table 76A-1 is the only location where lowercase representation is used.

*SuggestedRemedy*

Change hex representation from lowercase to uppercase in Table 76A-1.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* *P* *L* # 2753
Mandin, Jeff PMC Sierra

*Comment Type* **T** *Comment Status* **R** *[TO BE PROCESSED]*

The ongoing powersaving adhoc activity is expected to resume discussions and may arrive at a consensus.

*SuggestedRemedy*

Adopt 3av_0811_mandin_1.pdf or successor presentation.

*Response* *Response Status* **C**

REJECT.
No presentation 3av_0811_mandin_1.pdf was submitted for consideration.

---

*Cl* **77** *SC* **77.1.2** *P* **222** *L* **49** # 2468
Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

There are still references to Figure 77-2a and Figure 77-2b, even though they became 77-2 and 77-3 as in D2.1. Update references.
The same for page 223, line 13 and line 24.

*SuggestedRemedy*

As per comment.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.1.3** *P* **229** *L* **1** # 2464
Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *Figure 77-4*

"Figure 77-4 is affected. Box for ""MAC:MA_DATA.indication(...)"" is cut on the left side."

*SuggestedRemedy*

Fix it

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.1.3** *P* **229** *L* **39** # 2576
Kramer, Glen Teknovus, Inc.

*Comment Type* **E** *Comment Status* **A** *Figure 77-4*

"In figure 77-4, box ""MAC:MA_DATA.indication..."" is missing its left side"

*SuggestedRemedy*

per above

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.2.2.1** *P* **238** *L* **41** # 2543
Remein, Duane Alcatel-Lucent

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

Duplicate definition of time_quantum
This definition of time_quantum is a duplicate of that in 64.2.2.1. It should be referenced not redefined. Note that coexistence is highly dependent on this fundamental constant being the same.

*SuggestedRemedy*

Refer to definition in 64.2.2.1.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change definition of time_quantum to read ""This constant is defined in 64.2.2.1"". Mark external reference as appropriate."

*Cl* **77** *SC* **77.2.2.3** *P* **239** *L* **19** # 2597

Kramer, Glen Teknovus, Inc.

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

"We generally don't use term ""byte"" in the draft, rather the term ""octet"" should be used.

variable ""byteTime"" more accurately would be called ""fecOffset"", as this is what it in fact keeps track of."

*SuggestedRemedy*

Rename byteTime to fecOffset at these locations:
1) page 239, line 19
2) page 242, line 35
3) in state diagram 77-14, line 13

[Note for editors: Two other comments proposed adding byteTime variable to state diagrams 77-13 and 77-14. If these comments are approved, modify the variable name in these two locations as well.]

*Response* *Response Status* **C**

"ACCEPT.
Upon completion of the comment resolution, scrub the draft for occurence of ""byteTime"" and replace all occurences with ""fecOffset""."

*Cl* **77** *SC* **77.2.2.3** *P* **239** *L* **37** # 2656

Hajduczenia, Marek ZTE Corporation

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

"A quick search through the draft indicates that ""frameLen"" variable is not used any more after the last change in the FEC_Overhead function definition."

*SuggestedRemedy*

"Remove ""frameLen"" variable and associated definition."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.2.2.3** *P* **239** *L* **37** # 2599

Kramer, Glen Teknovus, Inc.

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

Variable frameLen is not used anywhere in the draft.

*SuggestedRemedy*

Remove the defnition.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.2.2.4** *P* **242** *L* **35** # 2525

Remein, Duane Alcatel-Lucent

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"In this formula, what does ""length"" refer to? Need to use a real defined variable to need to define one with a ""where:"" statement. Also the Formula is missing a reference number."

*SuggestedRemedy*

"replace ""length"" with a defined variable and give the formula a reference number."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Put the word ""length""in line 28/31 in apostrophies."

*Cl* **77** *SC* **77.2.2.4** *P* **242** *L* **40** # 2579

Kramer, Glen Teknovus, Inc.

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

"All functions in this section are shown with ""()"" at the end, except function ""select"""

*SuggestedRemedy*

"Add ""()"" for consistency"

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.2.2.7** *P* **250** *L* **1** # 2595

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

Refering to Figures 77-13 and 77-14.

In calculating the packet_initiate_delay values, the MPCP always assumes 12 bytes of IPG. In reality, IPG after MAC/RS may vary from 9 to 15 bytes. This often causes the packet_initiate_delay to undercount the required FEC overhead and results in 32 byte times of delay for the consequent packet(s). For more details, see 3av_0811_kramer_2.pdf

*SuggestedRemedy*

Modify FEC_Overhead() function to account for possible IPG increase in MAC/RS. The exact modifications are presented in 3av_0811_kramer_2.pdf.

*Response* *Response Status* **C**

ACCEPT.

Straw Poll #6
(1) The three corner cases should be fixed as suggested on slides 6-8 and 13-15 in 3av_0811_kramer_2.pdf.
_17_
(2) The delay variability due to the three corner cases should be considered a part of expected transmission overhead. No changes to state diagrams should be made.
_0_
(3) Abstain
_18_

(Vote for one only)

I approve the proposed resolution (ACCEPT):
Yes: 20
No: 0
Abstain: 15

*Cl* **77** *SC* **77.2.2.7** *P* **250** *L* **14** # 2596

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *BE PROCESSED], byteTime*

"OLT Control Multiplexer (Figure 77-13) calculates packet_initiate_delay to guarantee ""no-delay"" transfer for the next packet. However, the employed mechanism only works if the next packet is available from higher layers when the packet_initiate_delay expires. Simulations show that in case of light load, the next packet may become available during intervals when the PCS is transmitting parity blocks. These packets will experience delay variability of 1.6 TQ (32 byte times). For more explanation, see 3av_0811_kramer_2.pdf."

*SuggestedRemedy*

"We can either
1) accept this variability and increase guard bands (contrary to previous efforts)

2) Fix it by delaying a frame before timestamping it in MPCP until the parity blocks are sent. The exact proposed modifications are presented in 3av_0811_kramer_2.pdf.

[Note for editors: another comment suggests changing name ""byteTime"" to ""fecOffset""]"

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Select option 2, see also comment #2595

*Cl* **77** *SC* **77.2.2.7** *P* **250** *L* **15** # 2761

Kozaki, Seiji Mitsubishi Electric

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

In Figure 77-13, Frame could be transmitted during the transmitting of parity when IDLE transmitted to a no-signal section is achieved at the length of FEC codeword(216byte)

*SuggestedRemedy*

No frame should be shown when parity is transmitting.
See 3av_0811_kozaki_1.pdf.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
see comment #2595 for resolution

*Cl* **77** *SC* **77.2.2.7** *P* **250** *L* **35** # 2458

Hajduczenia, Marek ZTE Corporation

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

This comment is against Figure 77-13 and Figure 77-14.
On page 250, line 35, in the call MAC:MA_DATA.request, parameters are not separated with commas. The same is on page 252,line 37

*SuggestedRemedy*

Add spaces between parameters in the primitives indicated in the comment. All others have the spaces inserted.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.2.2.7** *P* **252** *L* **15** # 2598

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *BE PROCESSED], byteTime*

"ONU Control Multiplexer (Figure 77-14) calculates packet_initiate_delay to guarantee ""no-delay"" transfer for the next packet. However, the employed mechanism only works if the next packet is available from higher layers when the packet_initiate_delay expires. Simulations show that in case of light load, the next packet may become available during intervals when the PCS is transmitting parity blocks. These packets will experience delay variability of 1.6 TQ (32 byte times). For more explanation, see 3av_0811_kramer_2.pdf."

*SuggestedRemedy*

"We can either
1) accept this variability and increase guard bands (contrary to previous efforts)

2) Fix it by delaying a frame before timestamping it in MPCP until the parity blocks are sent. Exact proposed changes are shown in 3av_0811_kramer_2.pdf

[Note for editors: another comment suggests changing name ""byteTime"" to ""fecOffset""]"

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Select option 2, see also comment #2595

---

*Cl* **77** *SC* **77.2.2.7** *P* **252** *L* **29** # 2762

Kozaki, Seiji Mitsubishi Electric

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

In CHECK SIZE state, it can't check whether the codeword including transmitting frame outputs completely.

*SuggestedRemedy*

See 3av_0811_kozaki_2.pdf.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change ""floor""to ""ceiling"" in the description of the proposed function
Change the name of the function to ""CheckGrantSize(length)""
Applicable to only Figure 77-14 !!!!"

---

*Cl* **77** *SC* **77.2.2.7** *P* **252** *L* **29** # 2748

Mandin, Jeff PMC Sierra

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

Formula in Check Size state of figure 77-14 is incorrect

*SuggestedRemedy*

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See #2762 for resolution.

---

*Cl* **77** *SC* **77.2.2.7** *P* **252** *L* **8** # 2578

Kramer, Glen Teknovus, Inc.

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

In state diagram 77-14, transition from INIT to TRANSMIT_READY uses two different font sizes.

*SuggestedRemedy*

Make font the same size.

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.3** *P* **257** *L* **1** # 2467

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

Pages 257 - 259 are affected. Figures 77-16, 77-17 and 77-18 are affected. Below the boxes for Discovery Processing (ONU and OLT instances), there is very little space between MCI:MA_DATA.request(...) and opcode_rx specific activation block. It seems (e.g. on Figure 77-18) that they are together or an extension of each other.

*SuggestedRemedy*

Separate the said primitive parameters, shifting right block more to the right and the left one - to the left.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.3.2** *P* **260** *L* **52** # 2590

Kramer, Glen Teknovus, Inc.

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

opcode_tx is not used in Discovery processing (77.3.3)
opcode_tx is not used in Report processing (77.3.4)

*SuggestedRemedy*

1) remove opcode_tx definition from 77.3.3.2
2) remove opcode_tx definition from 77.3.4.2

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.3.2** *P* **260** *L* **52** # 2650

Hajduczenia, Marek ZTE Corporation

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

"A quick search through the draft indicates that ""opcode_tx"" variable is not used any more in any state diagrams in 77.3.3.6 and thus can be dropped."

*SuggestedRemedy*

"Remove ""opcode_tx"" variable and associated definition."

*Response* *Response Status* **C**

"ACCEPT.
[CommentType was ""!"" changed to ""T""]"

---

*Cl* **77** *SC* **77.3.3.5** *P* **264** *L* **29** # 2526

Remein, Duane Alcatel-Lucent

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

"Slippery ""is"":
""The service primitive used by the MAC Control client ...""
Same comment and resolution at:
Page 264 line 46,
Page 265 line 9,
Page 265 line 30,
Page 266 line 16.
Also look in c77.3.4.5 for similar constructs
Can make references to Table 31A-1 live as this is in the Framemaker book."

*SuggestedRemedy*

"change to ""The service primitive is ...""
Use live references to Table 31A-1 in same general areas."

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Change ""The service primitive used . "" to ""This service primitive is used ."" on (page / line): 264/29, 265/9, 266/16.
Change ""The service primitive issued ..."" to ""This service primitive is issued ..."" on (page/line): 265/31, 279/27, 287/50
Make references to Table 31A-1 live."

---

*Cl* **77** *SC* **77.3.3.5** *P* **264** *L* **48** # 2527

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

Repetitive parameters killing trees. Seems like many of the parameters are repeated with the exact same definition (as one would expect). This would be more readable is the definition was only introduced once and referenced thereafter.

*SuggestedRemedy*

"Remove duplicate definitions and reference. Could even define all below ""messages"" and then just list. Initial definitions could also be referenced in 77.3.4.5 and 77.3.5.5"

*Response* *Response Status* **C**

REJECT.
Definitions are supposed to be self-standing and not complicated to read. We already have enough cross-references in variables, constant and functions, sometimes going back to 802.3-2008. Unless there is a strong argument in favour of such a change, there will be no change to the draft effected.

*Cl* **77** *SC* **77.3.3.5** *P* **264** *L* **53** # 2452

Hajduczenia, Marek ZTE Corporation

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

"The description of the start[4] field in the MA_CONTROL.request is not really clear. Currently it says ""start times of the individual grants. Only the first grant_number elements of the array are used.""
The description of the length[4] field in the MA_CONTROL.request is not really clear. Currently it says ""lengths of the individual grants. Only the first grant_number elements of the array are used.""
Part of the description of the force_report[4] could be further clarified i.e. ""Only the first grant_number elements of the array are used."""

*SuggestedRemedy*

"Change ""start times of the individual grants. Only the first grant_number elements of the array are used."" to read ""defines the start times of the individual grants. Only the first grant_number elements of the start[4] array are used."". ""grant_number"" could be put in italics to separate it from the rest of the text.
Change ""lengths of the individual grants. Only the first grant_number elements of the array are used."" to read ""defines the lengths of the individual grants. Only the first grant_number elements of the length[4] array are used."". ""grant_number"" could be put in italics to separate it from the rest of the text.
Change ""Only the first grant_number elements of the array are used."" in the description of the force_report[4] to read ""Only the first grant_number elements of the force_report[4] array are used."". ""grant_number"" could be put in italics to separate it from the rest of the text."

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **77** *SC* **77.3.3.5** *P* **265** *L* **29** # 2485

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *ED], MACI REGISTER_REQ*

"The primitive ""MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, discoveryInformation, laserOnTime, laserOffTime)"" is used on Figure 77-16 as ""MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, laserOnTime, laserOffTime, discoveryInformation)""
Definition or use needs to be aligned"

*SuggestedRemedy*

"Suggestion to change definition rather then figure, in other primitives discoveryInformation is the last parameter. List of changes:
(1) on page 265, line 28, change ""MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, discoveryInformation, laserOnTime, laserOffTime)"" to ""MA_CONTROL.indication(REGISTER_REQ, status, flags, pending_grants, RTT, laserOnTime, laserOffTime, discoveryInformation)""
(2) in the following list of primitive parameters (pages 265/266), no changes are required (discoveryInformation is already in the last position)"

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.3.5** *P* **265** *L* **45** # 2528

Remein, Duane Alcatel-Lucent

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

pending_grants: This parameters holds the contents of the is singular
Also at:
Pg 266 ln 28

*SuggestedRemedy*

"Change to: ""This parameter holds ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.3.5** *P* **266** *L* **29** # 2755

Kuroda, Yasuyuki O F Networks Co., Ltd.

*Comment Type* **E** *Comment Status* **A** *], laserOnTime / laserOffTime*

"The laserOnTime in REGISTER MPCPDU is not echo back of the laserOnTime field that was previously received in the REGISTER_REQ MPCPDU.
(see Subclause 77.3.6.4)

""this parameter echoes back the laserOnTime field that was previously received in the REGISTER_REQ MPCPDU from the same MAC. This parameter has the default value of 0."""

*SuggestedRemedy*

"Change this sentence to:
""This parameter is an unsigned 8 bit value signifying the Laser On Time for the given ONU transmitter. The value is expressed in the units of time_quanta, as assigned by MAC Control client and specified in 77.3.6.4.""

The same change should be made on line 33 (laserOffTime)."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #2744 for resolution.

---

*Cl* **77** *SC* **77.3.3.6** *P* **271** *L* **20** # 2473

Hajduczenia, Marek ZTE Corporation

*Comment Type* **T** *Comment Status* **A** *MACI REGISTER_REQ*

"In Figure 77-20, primitive ""MACI(REGISTER_REQ, status, flags, pending_grants, RTT, discoveryInformation, laserOnTime, laserOffTime)"" is used incorrectly (order of parameters). Change to ""MACI(REGISTER_REQ, status, flags, pending_grants, RTT, laserOnTime, laserOffTime, discoveryInformation)"" to align with the definition and the usage prescribed in Figure 77-16."

*SuggestedRemedy*

As per comment.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.3.6** *P* **273** *L* **1** # 2457

Hajduczenia, Marek ZTE Corporation

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

This comment is against Figure 77-22. It seems that the font size is not uniform for all boxes in this figure.

*SuggestedRemedy*

Align the size of the text in all boxes to the same value (8 points ?)

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.3.6** *P* **275** *L* **26** # 2745

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *[TO BE PROCESSED]*

"Bug in Figure 77-23
""if (laserOffTimeCapability <= data_rx[96:103])"" is wrong
It should read
""if (laserOffTimeCapability <= data_rx[104:111])"""

*SuggestedRemedy*

As per comment

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.4.2** *P* **277** *L* **25** # 2658

Hajduczenia, Marek ZTE Corporation

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

"A quick search through the draft indicates that ""opcode_tx"" variable is not used any more in any state diagrams in 77.3.4.6 and thus can be dropped."

*SuggestedRemedy*

"Remove ""opcode_tx"" variable and associated definition."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.5.2** *P* **284** *L* **1** # 2591

Kramer, Glen Teknovus, Inc.

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

opcode_rx is used in Discovery processing state diagrams, but its definition is missing in 77.3.5.2.

*SuggestedRemedy*

Add definition as below:

opcode_rx
This variable is defined in 77.2.2.3.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.5.4** *P* **286** *L* **44** # 2659

Hajduczenia, Marek ZTE Corporation

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

"A quick search through the draft indicates that ""gntStTmr"" timer is not used any more in the draft and thus can be dropped."

*SuggestedRemedy*

"Remove ""gntStTmr"" timer and associated definition"

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.5.4** *P* **286** *L* **44** # 2588

Kramer, Glen Teknovus, Inc.

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

"It doesn't look that ""gntStTmr"" times is used anywhere in state diagrams."

*SuggestedRemedy*

verify that timer is not used and delet its definition from 77.3.5.4

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.5.6** *P* **291** *L* **28** # 2746

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **R** *SSED], delayed to after lunch*

"Figure 77-29, Figure 77-23 need changes along with the accompanying set of variables.
General outline of the problem:
(1) if ONU DBA client denies registration, NACK state is entered on Figure 77-23. Variable ""registered"" is false.
(2) in the result of a denied registration, this ONU should send a REGISTER_ACK MPCPDU with NACK flag set. For this, a time slot is necessary
(3) OLT allocates a slot for this ONU to send a REGISTER_ACK MPCPDU with NACK flag set. GATE MPCPDU with this slot reaches an ONU and is dropped (register flag is false, discovery is also false).
(4) ONU cannot effectively send a REGISTER_ACK MPCPDU with NACK flag set.
See suggested remedy field for suggested remedy."

*SuggestedRemedy*

"(1)
Add a new variable to 77.3.3.2:
register_nack
TYPE: Boolean
This variable indicates whether registration was denied by ONU DBA client. It is set to true in NACK state in Figure 77-23 and set to false in REGISTER_ACK state in Figure 77-23.
DEFAULT: false

(2)
Modify Figure 77-23:
(1) add ""register_nack <= false"" in state REGISTER_ACK
(2) add ""register_nack <= true"" in state NACK

(3)
Modify Figure 77-29:
modify condition
""else if (!discovery * registered * grant_number > 0)""
to read
""else if (!discovery * (registered + register_nack) * grant_number > 0)""

(4)
add a new entry in 77.3.5.2
register_nack
This variable is defined in 77.3.3.2.

(5)
change the name of state ""NACK"" in Figure 77-23 to ""REGISTER_NACK"" - it does not have to coincide with the MPCPDU name but be descriptive

See 3av_0811_hajduczenia_3.pdf for new format of Figure 77-23 and 77-29 with the implemented changes, along with the editorial instructions for the remaining changes."

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Use 3av_0811_hajduczenia_5.pdf as a reference instead of 3av_0811_hajduczenia_3.pdf. Differential changes marked in 3av_0811_hajduczenia_5.pdf in a red box.

---

*Cl* **77** *SC* **77.3.5.6** *P* **293** *L* **15** # 2600

Kramer, Glen Teknovus, Inc.

*Comment Type* **TR** *Comment Status* **A** *Figure 77-30*

In state diagram 77-30, calculation of maxDelay is incorrect. The registering ONU will always transmit one full FEC codeword, even though inside it may have just one REGISTER_REQ MPCPDU. Currently, the formula overestimates the maximum allowed delay and may result in ONU transmitting outside of the discovery window.

*SuggestedRemedy*

"1) Use the following formula in state RANDOM WAIT:

maxDelay <= currentGrant.length - laserOnTime - syncTime - laserOffTime - discoveryGrantLength

2) redefine discoveryGrantLength as follows:

""This constant represents the duration of ONU's transmission during discovery attempt. discoveryGrantLength is equal to one FEC codeword (see FEC_CODEWORD_SIZE in 77.2.2.1) expressed in units of time_quanta.
VALUE: 13"""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **77** *SC* **77.3.5.6** *P* **293** *L* **24** # 2763

Kozaki, Seiji Mitsubishi Electric

*Comment Type* **T** *Comment Status* **A** *PROCESSED], Figure 77-30*

In figure 77-30, Delimiter and IDLE aren't subtracted from stopTime.

*SuggestedRemedy*

Modify START_TX as below.
stopTime = currentGrant.start + currentGrant.length - laserOnTime - LaserOffTime - syncTime - ((BURST_DELIMITER + END_BURST_DELIMITER + 2*IDLE)/tqSize)

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.

Define a new variable as follows:
BurstOverhead
TYPE: integer
This variable represents the burst overhead and equals the sum of laserOnTime, laserOffTime, syncTime and an additional two time_quanta to account for END_BURST_DELIMITER and two leading IDLE vectors of the payload. This variable is expressed in units of time_quanta.

Modify START_TX as below.
stopTime = currentGrant.start + currentGrant.length - BurstOverhead

---

*Cl* **77** *SC* **77.3.6.1** *P* **297** *L* **27** # 2577

Kramer, Glen Teknovus, Inc.

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

"Sentences are difficult to read:

line 27: ""Start time of the grant, this is an 32-bit unsigned field.""
line 31: ""Length of the signaled grant, this is an 16 16-bit unsigned field."""

*SuggestedRemedy*

"rephrase as:

line 27: ""This 32-bit unsigned field represents the start time of the grant.""
line 31: ""This 16-bit unsigned field represents the length of the grant."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.1** *P* **297** *L* **35** # 2529
Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **R** *[TO BE PROCESSED]*

"Why was ""Grant #n Length not capitalized here?
""... and thus consume part of the Grant #n length."""

*SuggestedRemedy*

"Change to: ""... and thus consume part of the Grant #n Length."""

*Response* *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

*Cl* **77** *SC* **77.3.6.1** *P* **297** *L* **37** # 2465
Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A**

The list of the individual fields ends with element h) and should end with element g). Sync Time should be at element f)

*SuggestedRemedy*

Make sure plain text version is OK. In the future, pay closer attention to what Frame is doing during generation of mark up files

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.1** *P* **297** *L* **41** # 2530
Remein, Duane Alcatel-Lucent

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

"Missing a ""The""
""ONU calculates the synchronization time effective grant length by ...""
Similar issue on pg 305 ln 15:
""ONU calculates the effective grant length by subtracting the ..."""

*SuggestedRemedy*

"Add the ""The""
""The ONU calculates ..."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.1** *P* **297** *L* **49** # 2531
Remein, Duane Alcatel-Lucent

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

"Should be an ""a"":
""This is an 16-bit flag register"" (this is also seen on pg 302 ln 25)
Also pg 298 ln 5 ""except when the MPCPDU is a discovery GATE"" - capitalization of GATE here seems inconsistent with elsewhere in this section.
Also pg 298 ln 6 ""discovery flag"" - Discovery is not capitalized."

*SuggestedRemedy*

"Change to:
""This is a 16-bit flag register""
""MPCPDU is a discovery gate""
""Discovery flag"" as elsewhere in this section."

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.1** *P* **298** *L* **2** # 2474
Hajduczenia, Marek ZTE Corporation

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

"The text still says ""and varies in length from 13 - 39 accordingly."" even though the size of the Pad was corrected to ""15 - 39""."

*SuggestedRemedy*

"Change ""and varies in length from 13 - 39 accordingly."" to ""and varies in length from 15 - 39 accordingly."""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.2** *P* **300** *L* **7** # 2532
Remein, Duane Alcatel-Lucent

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

"Improper space
""the length of queue# n at time of REPORT""
Also ln 10 ""representing transmission request"""

*SuggestedRemedy*

"Change to:
""the length of queue #n at time of REPORT""
""representing the transmission request"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.3** *P* **302** *L* **30** # 2589

Kramer, Glen Teknovus, Inc.

*Comment Type* **T** *Comment Status* **A** *[TO BE PROCESSED]*

"The REGISTER_REQ Discovery information field (Table 77-6) does not match the GATE Discovery Information field (Table 77-3)

In GATE, bit 0 means:
""0 - OLT does not support 1 Gb/s reception
1 - OLT supports 1 Gb/s reception""

In REGISTER_REQ, bit 0 means:
""0 - ONU transmitter is capable of 1 Gb/s
1 - ONU transmitter is not capable of 1 Gb/s""

Same for bit 4."

*SuggestedRemedy*

"make bits meanings uniform. Change bits 0 and 4 in table 77-6 as below;

bit 0:
""0 - ONU transmitter is not capable of 1 Gb/s
1 - ONU transmitter is capable of 1 Gb/s""

bit 4:
""0 - 1 G registration is not attempted
1 - 1 G registration is attempted""

Also for bits 4 and 5, change ""G"" to ""Gb/s"""

*Response* *Response Status* **C**

ACCEPT.

*Cl* **77** *SC* **77.3.6.4** *P* **305** *L* **23** # 2744

Hajduczenia, Marek ZTE Corporation

*Comment Type* **TR** *Comment Status* **A** *], laserOnTime / laserOffTime*

"(1) Current definition of the laserOnTime and laserOffTime in REGISTER MPCPDU does not match what is done in Figure 77-23. In 77.3.6.4 we have the following definition:
""Echoed Laser On Time. This is an unsigned 8 bit value signifying the Laser On Time for the given ONU transmitter. The value is expressed in the units of time_quanta. The value is delivered to the ONU for confirmation purposes only and its utilization is not prescribed in this specification.""
""Echoed Laser Off Time. This is an unsigned 8 bit value signifying the Laser Off Time for the given ONU transmitter. The value is expressed in the units of time_quanta. The value is delivered to the ONU for confirmation purposes only and its utilization is not prescribed in this specification.""
According to Figure 77-23, laserOnTime and laserOffTime is compared with laserOnTimeCapability and laserOffTimeCapability and recorder only if the assigned value is <= than what ONU can do. This means that the values delievered in REGISTER MPCPDU do not necessarily be an echo of the value delivered by the ONU in the REGISTER_REQ MPCPDU
(2) Text on page 255, line 24 ""Also, the OLT echoes the maximum number of pending grants, laser on time and laser off time."" also needs a change accordingly.
(3) Figure 77-15 on page 256, line 18 needs to be updated to correct ""echo of Laser On Time"" and ""echo of Laser Off Time""
(4) Figure 77-35 on page 306, lines 20-24 needs to be updated to correct ""Echoed Lased On Time"" and ""Echoed Lased Off Time""
(5) update description of laserOnTime and laserOffTime on page 266, lines 29-36 in the MA_CONTROL.request(DA, REGISTER...) primitive"

*SuggestedRemedy*

"Change bullet ""g)"" in REGISTER MPCPDU to read as follows:
""Target Laser On Time. This is an unsigned 8 bit value, expressed in the units of time_quanta, signifying the Laser On Time for the given ONU transmitter. This value may be different from Laser On Time delivered by the ONU in the REGISTER_REQ MPCPDU during the Discovery process. The ONU updates the local laserOnTime variable per state diagram Figure 77-23. Further utilization of this variable is not prescribed in this specification.""
Change bullet ""h)"" in REGISTER MPCPDU to read as follows:
""Target Laser Off Time. This is an unsigned 8 bit value, expressed in the units of time_quanta, signifying the Laser Off Time for the given ONU transmitter. This value may be different from Laser Off Time delivered by the ONU in the REGISTER_REQ MPCPDU during the Discovery process. The ONU updates the local laserOffTime variable per state diagram Figure 77-23. Further utilization of this variable is not prescribed in this specification.""
(2) Change the indicated text to read as follows ""Moreover, the OLT echoes the maximum number of pending grants. The OLT sends also the target value of laser on time and laser off time, which may be different than laser on time and laser off time delivered by the ONU in the REGISTER_REQ MPCPDU.""
(3) in Figure 77-15, change ""echo of Laser On Time"" to ""target Laser On Time""; change ""echo of Laser Off Time"" to ""target Laser Off Time""

(4) in Figure 77-35 on page 306, lines 20-24, change ""Echoed Lased On Time"" to read ""Target Lased On Time""; and ""Echoed Lased Off Time"" to ""Target Lased Off Time""
(5) (5) update description of laserOnTime and laserOffTime on page 266, lines 29-36 in the MA_CONTROL.request(DA, REGISTER...) primitive, where ""laserOnTime"" parameter should read ""this parameter carries the target value of Laser On Time for the given ONU transmitter. This value may be different than the laserOnTime value carried in the REGISTER_REQ MPCPDU received from the same MAC during Discovery stage. This parameter has the default value of 0."" and ""laserOffTime"" parameter should read ""this parameter carries the target value of Laser Off Time for the given ONU transmitter. This value may be different than the laserOffTime value carried in the REGISTER_REQ MPCPDU received from the same MAC during Discovery stage. This parameter has the default value of 0.""""

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.

Change bullet ""g)"" in REGISTER MPCPDU to read as follows:
""Target Laser On Time. This is an unsigned 8 bit value, expressed in the units of time_quanta, signifying the Laser On Time for the given ONU transmitter. This value may be different from Laser On Time delivered by the ONU in the REGISTER_REQ MPCPDU during the Discovery process. The ONU updates the local laserOnTime variable per state diagram in Figure 77-23.""

Change bullet ""h)"" in REGISTER MPCPDU to read as follows:
""Target Laser Off Time. This is an unsigned 8 bit value, expressed in the units of time_quanta, signifying the Laser Off Time for the given ONU transmitter. This value may be different from Laser Off Time delivered by the ONU in the REGISTER_REQ MPCPDU during the Discovery process. The ONU updates the local laserOffTime variable per state diagram in Figure 77-23.""

(2) Change the indicated text to read as follows ""Moreover, the OLT echoes the maximum number of pending grants. The OLT also sends the target value of laser on time and laser off time, which may be different than laser on time and laser off time delivered by the ONU in the REGISTER_REQ MPCPDU.""

(3) in Figure 77-15, change ""echo of Laser On Time"" to ""target Laser On Time""; change ""echo of Laser Off Time"" to ""target Laser Off Time""

(4) in Figure 77-35 on page 306, lines 20-24, change ""Echoed Laser On Time"" to read ""Target Laser On Time""; and ""Echoed Laser Off Time"" to ""Target Laser Off Time""

(5) update description of laserOnTime and laserOffTime on page 266, lines 29-36 in the MA_CONTROL.request(DA, REGISTER...) primitive, where

""laserOnTime"" parameter should read ""this parameter carries the target value of Laser On Time for the given ONU transmitter. This value may be different than the laserOnTime value carried in the REGISTER_REQ MPCPDU received from the corresponding ONU MAC during Discovery stage. This parameter has the default value of 0.""

""laserOffTime"" parameter should read ""this parameter carries the target value of Laser Off Time for the given ONU transmitter. This value may be different than the laserOffTime value carried in the REGISTER_REQ MPCPDU received from the corresponding ONU MAC during Discovery stage. This parameter has the default value of 0.""""

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*Cl* **77** *SC* **77.3.6.5** *P* **306** *L* **47** # 2533

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **R**

"Missing name at ""c)""
""Echoed assigned port. This field holds ...""""

*SuggestedRemedy*

"Change to ""Assigned port. Echoed assigned port. This field holds ...""""

*Response* *Response Status* **C**

"REJECT.
See Figure 77-36 - it is ""Echoed assigned port"" and not ""Assigned port""""

---

*Cl* **77** *SC* **77.4.1** *P* **308** *L* **16** # 2534

Remein, Duane Alcatel-Lucent

*Comment Type* **E** *Comment Status* **A** *[TO BE PROCESSED]*

"Missing ""the"":
""It may do so by sending one discovery GATE MPCPDU on 1 Gb/s downstream channel and a similar discovery GATE MPCPDU on 10 Gb/s downstream channel; both discovery GATE MPCPDUs having the same Start Time value.""""

*SuggestedRemedy*

"Change to:
""It may ... on the 1 Gb/s ... on the 10 Gb/s ...""""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **99** *SC* *P* **i** *L* **32** # 2731

Lynskey, Eric Teknovus

*Comment Type* **E** *Comment Status* **A** *Draft Ref*

Reference to D1.802.

*SuggestedRemedy*

Replace with D2.1.

*Response* *Response Status* **C**

"ACCEPT IN PRINCIPLE.
Replace all references in the front matter to a specific draft number with ""this draft""""

*Cl* **99** *SC* *P* **i** *L* **54** # 2733

Lynskey, Eric Teknovus

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

The line numbers on the front matter have not been raised, as requested in comment 2172 against D2.0.

*SuggestedRemedy*

Raise line numbers in front matter.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
It appears that there are line number in the front matter for both th eplain and the marked-up versions.

---

*Cl* **99** *SC* *P* **iii** *L* **23** # 2732

Lynskey, Eric Teknovus

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

The front matter in D2.0 followed the note on page 3 of D2.0 and all of the front matter was numbered using arabic page numbers. Somehow, this has been reverted back to Roman numerals for D2.1. I searched through the accepted comment database for D2.0 and could find no such change requested. Please be consistent with the note in the front matter and use arabic numbers or remove the note and use Roman numerals.

*SuggestedRemedy*

Revert to page numbering of D2.0.

*Response* *Response Status* **C**

ACCEPT.
Change to numbers.

---

*Cl* **99** *SC* **99** *P* **1** *L* **32** # 2560

Kramer, Glen Teknovus, Inc.

*Comment Type* **E** *Comment Status* **A** *Draft Ref*

Introduction text referes to D1.802 instead of D2.1

*SuggestedRemedy*

"Correct the version of replace with ""This draft"""

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **99** *SC* **99** *P* **1** *L* **32** # 2653

Hajduczenia, Marek ZTE Corporation

*Comment Type* **ER** *Comment Status* **A** *Draft Ref*

Inconsistent draft number. Title states it is D2.1 and in frontmatter, we still have D1.802.

*SuggestedRemedy*

"Change ""Draft D1.802 is prepared"" to ""This draft is prepared"" or ""Draft D2.1 is prepared"". In the latter case, make sure You use external draft version reference file, which we use for the file template"

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
See resolution to comment #2731

---

*Cl* **99** *SC* **99** *P* **11** *L* **1** # 2667

Dawe, Piers Avago Technologies

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

Thank you for the contents list

*SuggestedRemedy*

Please change 'Table of Contents' to 'Contents'. Also font size is larger than other titles.

*Response* *Response Status* **C**

ACCEPT.

---

*Cl* **99** *SC* **99** *P* **15** *L* **43** # 2668

Dawe, Piers Avago Technologies

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

Thanks for updating this table

*SuggestedRemedy*

Please put pi in alphabetical order, between mu and omega (omega is the last letter, the o before p is omicron). Also, table says 'Upper case Pi' but not 'Upper case Omega': either describe all the Greek letters as upper case or lower case as appropriate, or none of them.

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.
Will place pi between mu and omega

*Cl* **99** *SC* **99** *P* **2** *L* **12** # 2707

Dawe, Piers Avago Technologies

*Comment Type* **TR** *Comment Status* **R** *[TO BE PROCESSED]*

This abstract avoids telling the reader that there is a draft new transmission scheme in Annex 31C, unrelated to anything described here.

*SuggestedRemedy*

Either remove the draft new transmission scheme in Annex 31C or add text here to mention it. This could be done by an additional objective.

*Response* *Response Status* **U**

REJECT.
Front matter is not part of the published standard.
Independently of that, the abstract does not need to list every minor mechanism added to the draft. The EXTENSION MAC Control message was added at the directive of 802.3 Working Group at the July 2008 plenary meeting. Please review meeting minutes.

Response accepted by voice vote without opposition.

*Cl* **99** *SC* **99** *P* **2** *L* **23** # 2687

Dawe, Piers Avago Technologies

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

Forward Error Correction

*SuggestedRemedy*

forward error correction

*Response* *Response Status* **C**

ACCEPT.

*Cl* **99** *SC* **99** *P* **2** *L* **8** # 2666

Dawe, Piers Avago Technologies

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

'As such, the 10G-EPON extends the network architecture of P802.3ah 1G-EPON'
I do not know what 'As such' means here. Has the network architecture really been extended? As 802.3ah was approved, should the P be dropped? But as this document is written as an amendment to P802.3ay/D2.2, there is no separate 802.3ah anyway.

*SuggestedRemedy*

10G-EPON uses the network architecture of IEEE Std 802.3's 1G-EPON

*Response* *Response Status* **C**

ACCEPT.

*Cl* **99** *SC* **TOC** *P* **xi** *L* # 2547

Remein, Duane Alcatel-Lucent

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

Errors in Table of Contents

*SuggestedRemedy*

Update TOC last thing before publication of next draft.

*Response* *Response Status* **C**

ACCEPT.
This must be done last.