Cl **00** *SC* **0** *P* *L* # 2868

Frank , Chang Vitesse

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

Confusing for abreviation: RS=Reconciliation Sublayer vs. RS=Reed-Solomon

SuggestedRemedy

??

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change all uses of "RS" that refer to Reed-Solomon to "Reed-Solomon".

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.

Cl **00** *SC* **31.2** *P* **417** *L* **25** # 2866

Dawe, Piers Avago Technologies

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

31.2 says 'MAC Control clients may include the Bridge Relay Entity, LLC, or other applications.' With the proposed Annex 31 'organization specific' transmission channel, there would be another client. But is it possible to have multiple MAC Control clients of the same MAC Control sublayer instance? Refer to unsatisfied TRs.

SuggestedRemedy

Either: State what the new MAC Control client is. Is it an OMCI? Give a reference to the appropriate ITU-T document(s). Explain about multiple MAC Control clients. Or,
State what the new MAC Control EXTENSION client is. Is it an OMCI? Give a reference to the appropriate ITU-T document(s).
Either way, modify the diagram to show the two parallel sublayers above MAC Control.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See resolution to comment #2709.
[Changed clause from 31 to 00 as c31 is not open]

Cl **00** *SC* **31.2** *P* **417** *L* **25** # 212709

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* **56.1** *P* **53** *L* **2426** # 2808

Lin, Rujian Shanghai Luster Terab

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

In Figure 56-2, the ODN is composed of Fiber and Optical distributor combiner(s)

SuggestedRemedy

Propose to change the block " Optical distributor combiner(s)" into " Optical splitter(s)/combiner(s)".
The same change ia applied to Figure 56-3, Figure 56-4, Figure 75-1, Figure 75-2, Figure 76-1, Figure 76-2, Figure 77-2, Figure 77-3.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

[moved to c00]

Cl **00** *SC* **75.2** *P* **70** *L* **1** # 2834

Hajduczenia, Marek ZTE Corporation

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

This comment is about figure 75-1 but also applies to 75-2, 76-1, 76-2, 77-2 and 77-3. In the diagram, we have grayed boxes, which indicate sublayers defined in this clause. Why did we add back "(Clause XX)" in the sublayer in the diagram? Isn't it clear what grayed out sublayer means?

SuggestedRemedy

Either remove "(Clause XX)" from grayed out sublayers in figures 75-1, 75-2, 76-1, 76-2, 77-2 and 77-3 or remove the gray colour and explanation what it is.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove "(Clause xx)"
[Changed to Clause 00]

Cl **01** *SC* **1.1** *P* **19** *L* **33** # 2860

Dawe, Piers Avago Technologies

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

1.1 Normative references
should be

SuggestedRemedy

1.3 Normative references

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.1** *P* **19** *L* **54** # 2863

Dawe, Piers Avago Technologies

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

Following improvements to 31C.1, need to add two more references, either here or in Annex A.

SuggestedRemedy

Add ITU-T G.984 and ITU-T G.983 to the references.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Add the following references:

ITU-T Recommendation G.983.1, 1998 - Broadband optical access systems based on Passive Optical Networks (PON).

ITU-T Recommendation G.984.2, 2003 - Gigabit-capable Passive Optical Networks (G-PON): Physical Media Dependent (PMD) layer specification.

Cl **01** *SC* **1.3** *P* **20** *L* **3** # 2854

Dawe, Piers Avago Technologies

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

For TIA-455-127-A, you have already given the (year) date just before the title. Also, internationally, there is no month 00 ;)

SuggestedRemedy

Delete 'Date:11/00/06'. Consider deleting 'Revision:A'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove "Date:11/00/06"

Cl **01** *SC* **1.4** *P* **20** *L* **11** # 2827

Hajduczenia, Marek ZTE Corporation

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

Text reads "See IEEE 802.3 Clause 75, Clause 76 and Clause 77" - missing commna

SuggestedRemedy

Change "See IEEE 802.3 Clause 75, Clause 76 and Clause 77" to "See IEEE 802.3 Clause 75, Clause 76, and Clause 77"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The phrase is correct without the added comma.

Cl **01** *SC* **1.4** *P* **20** *L* **15** # 2828

Hajduczenia, Marek ZTE Corporation

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

Text reads "75, Clause 76, Clause 77)." which is inconsistent with line 11

SuggestedRemedy

Change "75, Clause 76, Clause 77)." to read "75, Clause 76, and Clause 77)."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The phrase is correct without the added comma.

Cl **01** *SC* **1.4** *P* **20** *L* **21** # 2841

Hajduczenia, Marek ZTE Corporation

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

Text "in either one or both directions." would seem to allow to say that 10G-EPON can perate at 10Gb/s upstream only, which is not true. Text needs clarification

SuggestedRemedy

Change "in either one or both directions." to "in either downstream or both downstream and upstream directions."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **20** *L* **28** # 2829

Hajduczenia, Marek ZTE Corporation

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

There is superfluous "data rate" hanging around without much need. If the value is expressed in "Gb/s", there is little doubt it is data rate.

SuggestedRemedy

remove "data rate" in lines 18, 21, 24, 27

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.4** *P* **20** *L* **32** # 2842

Hajduczenia, Marek ZTE Corporation

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

"the static loss of light through (...)" reads funny. Light is not lost, its power is dissipated (lost). This needs some word-smithing

SuggestedRemedy

Suggestion to change "the static loss of light through a link between a transmitter and receiver. It includes the loss of the fiber, connectors, and splices and, for EPON links, optional power splitter/combiner." to read "static attenuation of optical carrier power level, observed between transmitter and receiver, resulting in particular from the presence of fiber, connectors, and splices as well as - in case of PON links - optional power splitter(s)/combiner(s)."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
I believe the term "loss of light", often used in reference to fiber optic systems for the last 20 years, is well understood.

Cl **01** *SC* **1.5** *P* **20** *L* **54** # 2856

Dawe, Piers Avago Technologies

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

Distributed Feedback Laser (abbreviation is used in 67A.3 and 75.5.1)

SuggestedRemedy

Change to
distributed feedback (no capitals, no 'laser')

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **01** *SC* **1.5** *P* **21** *L* **6** # 2855

Dawe, Piers Avago Technologies

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

Time Division Multiple Access
Wavelength Division Multiplexing

SuggestedRemedy

time division multiple access
wavelength division multiplexing

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.2.1.2** *P* **26** *L* **12** # 2843

Hajduczenia, Marek ZTE Corporation

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

"10/1GBASEûPRX Clause 76 10/1G-EPON 10 Gb/s 64B/66B with 1 Gb/s 8B/10B" - someone reading this may think we use both coding schemes in the same data path. This needs some clarification

SuggestedRemedy

Change "10/1GBASEûPRX Clause 76 10/1G-EPON 10 Gb/s 64B/66B with 1 Gb/s 8B/10B" to read "10/1GBASEûPRX Clause 76 10/1G-EPON 10 Gb/s 64B/66B downstream and 1 Gb/s 8B/10B upstream". The same for line 19

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.5.1.4** *P* **26** *L* **45** # 2830

Hajduczenia, Marek ZTE Corporation

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

Text "specified in 65.1.2.3.265.1.3.2.2 or 76.2.6.1.3.2 as approproate.;" is missing a comma.

SuggestedRemedy

Change "specified in 65.1.2.3.265.1.3.2.2 or 76.2.6.1.3.2 as approproate.;" to "specified in 65.1.2.3.265.1.3.2.2 or 76.2.6.1.3.2, as approproate.;"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** *SC* **30.3.7.1.7** *P* **27** *L* **37** # 2831

Hajduczenia, Marek ZTE Corporation

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

Plural "frames" is used though verbs indicate singular noun. Align verb forms to what is used in 30.3.7.1.6

SuggestedRemedy

Change "passes the CRCû8" to "pass the CRCû8"
Change "and the frame meets the" to "and meet the"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

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

Dawe, Piers Avago

Comment Type **TR** *Comment Status* **R** *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* **31** *L* **31** # 2857

Dawe, Piers Avago Technologies

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

Hexadecimal

SuggestedRemedy

hexadecimal

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **31A** *SC* **31A** *P* **33** *L* **8** # 2864

Dawe, Piers Avago Technologies

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

In line with the improvements to 31C, this table can be more specific.

SuggestedRemedy

Change '24 bits' to '00-19-A7'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Page and line number was fixed, was against 31/40]

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

Dawe, Piers Avago

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

"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* **31C.3.1** *P* **33** *L* **6** # 212710

Dawe, Piers Avago Technologies

Comment Type **TR** *Comment Status* **R** *ΓENSION MAC Control Client*

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 **31C** *SC* **31C.3.1** *P* **33** *L* **6** # 2850

Dawe, Piers Avago Technologies

Comment Type **TR** *Comment Status* **D** *ΓENSION MAC Control Client*

Draft says 'Upon reception of EXTENSION frames, the frame is sent to the MAC CONTROL client.' So there is only one MAC CONTROL client. I doubt that you want the EXTENSION frames to go to the same client as the ordinary Ethernet frames. 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'.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See comment #212710 for rationale.

Cl **45** *SC* **45.2.1** *P* **39** *L* **43** # 2858

Dawe, Piers Avago Technologies

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

Thanks for adding the third column in Table 45-3. I wasn't clear enough in describing how it is used in P802.3ba: it's to allow the reader to click to the definition of the register concerned.

SuggestedRemedy

Please change '75' to a clickable '45.2.1.11'.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.6** *P* **40** *L* **29** # 2859

Dawe, Piers Avago Technologies

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

Unwanted '>', order

SuggestedRemedy

Change
Change Table 45-7 as shown below
45.2.1.6> PMA/PMD control 2 register (Register 1.7)
to
45.2.1.6 PMA/PMD control 2 register (Register 1.7)
Change Table 45-7 as shown below

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.1.6.1** *P* **44** *L* **46** # 2862

Dawe, Piers Avago Technologies

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

Need to update 45.2.1.6.1 PMA/PMD type selection (1.7.3:0) because you have changed from the former 4-bit PMA/PMD type selection to 5-bit PMA/PMD type selection.

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.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.29** *P* **45** *L* **47** # 2796

Mandin, Jeff PMC Sierra

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

wordsmithing/consistency

SuggestedRemedy

Change:

"This bit indicates that the PCS supports ...."

to

"A read of 1 in this bit indicates that the PCS supports ...."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.29** *P* **45** *L* **48** # 2797

Mandin, Jeff PMC Sierra

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

wordsmithing

SuggestedRemedy

Change:

"(mandatory for 10/1GBASE-PRX or 10GBASE-PR)"

to

"(always reads as 1 for 10/1GBASE-PRX or 10GBASE-PR)"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Given the change accepted in comment #2796 it is clear that the bit will be read as a "1". Stating that the register is mandatory for 10/1GBASE-PRX or 10GBASE-PR emphesises the mandatory point and should remain.

Cl **45** *SC* **45.2.3.29.2** *P* **46** *L* **10** # 2844

Hajduczenia, Marek ZTE Corporation

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

Text reads "This bit indicates that the 10GBASE-PR PCS or the downstream transmitter/receiver component of the 10/1GBASE-PRX supports 10 Gb/s forward error correction." which can be read as indicating that in 10/1GBASE-PRX-D PCS, receive path uses RS(255,223), which is not true. Needs some clarification.

SuggestedRemedy

Change
"This bit indicates that the 10GBASE-PR PCS or the downstream transmitter/receiver component of the 10/1GBASE-PRX supports 10 Gb/s forward error correction."
to
"This bit indicates that the 10GBASE-PR PCS or the transmit path in the 10/1GBASE-PRX OLT PCS and the receive path in 10/1GBASE-PRX ONU PCS support 10 Gb/s forward error correction."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** *SC* **45.2.3.30.2** *P* **47** *L* **1** # 2799

Mandin, Jeff PMC Sierra

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

wordsmithing + incorrect reference

SuggestedRemedy

Change

"The register describing ability to enable forward error correction in the 10/1GBASE-PRX upstream is specified in 45.2.7.3"

to

"The register for enabling and disabling forward error correction in the 10/1GBASE-PRX upstream is specified in 45.2.8.3"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

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* **53** *L* **1** # 2832

Hajduczenia, Marek ZTE Corporation

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

Layer architecture figures (56-1, 56-2, 56-3, 75-1, 75-2, 76-1, 76-2, 77-2 and 77-3) need two updates:
(1) align with official requirements for such figures if published by the Chair of 802.3
(2) per comment from Dallas meeting from dr. Lin (#2766), it was proposed to replace in all aforementioned figures the block "Optical distributor combiner(s)" with "Optical splitter(s)/combiner(s)"

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
1) Figure style has not yet been published by 802.3.
2) Accept

Cl **56** *SC* **56.1.2** *P* **56** *L* **20** # 2792

Mandin, Jeff PMC Sierra

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

Incorrect PHY name and clause references.

SuggestedRemedy

Change:

"The P2MP PHYs for the 10/10GûEPON use the 10GBASE-PR PCS (see Clause 75) and PMA (see Clause 76). The P2MP PHYs for 10/1G-EPON use the 10GBASE-PR PCS and PMA for the downstream direction (see Clause 75 and Clause 76 respectively) and 1000BASE-X PCS (see Clause 65) for the upstream direction."

to:

"The P2MP PHYs for the 10/10GûEPON use the 10GBASE-PR PCS and PMA (see Clause 76). The P2MP PHYs for 10/1G-EPON use the 10GBASE-PRX PCS and PMA (see Clause 76)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
It is important to keep the c65 reference
Change:
"The P2MP PHYs for the 10/10GûEPON use the 10GBASE-PR PCS (see Clause 75) and PMA (see Clause 76). The P2MP PHYs for 10/1G-EPON use the 10GBASE-PR PCS and PMA for the downstream direction (see Clause 75 and Clause 76 respectively) and 1000BASE-X PCS (see Clause 65) for the upstream direction."

to:
"The P2MP PHYs for the 10/10GûEPON use the 10GBASE-PR PCS and PMA (see Clause 76). The P2MP PHYs for 10/1G-EPON use the 10GBASE-PR PCS and PMA for the downstream direction (see Clause 76) and 1000BASE-X PCS (see Clause 65) for the upstream direction."

Cl **56** *SC* **56.1.2.2** *P* **56** *L* **49** # 2833

Hajduczenia, Marek ZTE Corporation

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

"The MPCP achieves this by" - "the" is not needed. remove it

SuggestedRemedy

Per comment

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The sentence reads better with the article.

Cl **56** *SC* **56.1.3** *P* **57** *L* **4** # 2794

Mandin, Jeff PMC Sierra

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

Wordsmithing

SuggestedRemedy

Change:

"Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 10GBASEûR, but which include a 10GBASE-PR RS, PCS and PMA adapted for 10G-EPON, along with a mandatory FEC capability, as defined in Clause 76."

to:

"Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 10GBASEûR, but which include RS, PCS and PMA sublayers adapted for 10G-EPON, along with a mandatory FEC capability, as defined in Clause 76."

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The reference to 10GBASE-R provides the reader with predecessor to 10GBASE-PR and should be kept.

Cl **56** *SC* **56.1.3** *P* **57** *L* **7** # 2795

Mandin, Jeff PMC Sierra

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

Terminology

SuggestedRemedy

Change:

"The family of P2MP Physical Layer signaling systems utilizes 10GBASE-R signaling for the downstream direction while supporting both 10GBASE-R and 1000BASE-X upstream signaling in the following series of PMD combinations:"

to

"The family of P2MP Physical Layer signaling systems utilizes 10 Gb/s signaling for the downstream direction while supporting both 10 Gb/s and 1 Gb/s upstream signaling in the following series of PMD combinations:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **66** *SC* **66.3** *P* **61** *L* **32** # 2793
Mandin, Jeff PMC Sierra

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

In c66, "p2p" is used when P2MP is intended

SuggestedRemedy

change P2P to P2MP in clause 66

Also in 56.1.2.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.1** *P* **67** *L* **28** # 2809
Lin, Rujian Shanghai Luster Terab

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

in either downstream or in both downstream and upstream directions

SuggestedRemedy

Change to "in either downstream direction or both downstream and upstream directions"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Original text reads fine.

Cl **75** *SC* **75.1** *P* **69** *L* **428** # 2871
Frank , Chang Vitesse

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

Suggest some changes in Table 75-1 to avoid ambiguity. Line 22 actually talking about nominal operating distance, not clear what >10km and >20km actually means?

SuggestedRemedy

Change "Maximum reach" as "(nominal) operating distance", take out >=.
Maybe consider to add a footnote such as:
"...exceeds the operational range requirement while meeting all optical specifications and power budget is considered compliant."

(-2, +3) is confusing, suggest to change to wavelength range as 1570 to 1580.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TF has already discussed this idea and we agree that "maximum reach of >=10 km" is understandable. A footnote can be added to "Maximum reach" parameter stating that "A compliant system may exceed maximum reach designed for given power budget as long as optical power budget and other mandatory optical layer specifications are met. "

Cl **75** *SC* **75.2.1.1** *P* **72** *L* **37** # 2861
Dawe, Piers Avago Technologies

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

parings

SuggestedRemedy

pairings
Also in 75.2.1.2
Also add full stop after 'Table 75-1', line 53

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.3** *P* **73** *L* **69** # 2867
Frank , Chang Vitesse

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

Add note in Table 75.2 regarding 10GBASE-PR-U2.

SuggestedRemedy

sth. like this: 10GBASE-PR-U2 is eliminated as assumed the same as 10GBASE-PR-U1.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
No need, there is no 10GBASE-PR-U2 at all so nothing was eliminated. It is clear from the power budget - PMD mapping that 10GBASE-PR-U1 is used by two power budgets (PR10 and PR20).

Cl **75** *SC* **75.3.2** *P* **75** *L* **410** # 2872
Frank , Chang Vitesse

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

feel not appropriate statement for PMD service i/f.

SuggestedRemedy

To be cosnistent with the existing practice, suggest the following change to replace line 4-6:

"All optical measurements for the compliance points shall be made through a short path cable, between 2m and 5m in length, unless otherwise specified.

The electrical specifications of the PMD service interface (TP1 and TP4 for the downstream channel and TP5 and TP8 for the upstream channel) could be defined as transceiver module compliance points into host ASIC systems."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.4** *P* **90** *L* **36** # 212451

SAEKI, NAOTO NEC Corporation

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

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* **U**

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* **77** *L* **23** # 2790

Hamano, Hiroshi Fujitsu Labs. Ltd.

Comment Type **E** *Comment Status* **D** *Table 75-6, PMD group issue*

In the last Denver meeting, the number of Columns in Table 75-5 was reduced from three to two, combining PR-D1/PRX-D1 and PR-D3/PRX-D3, because those values are identical, while, in Table 75-6, PR-D2 and PR-D3 Columns still remain, although theirs are also identical.
It seems logical not to duplicate the column, indicating properly the commonality over classes. But it also seems confusing for readers to distinguish three power budget classes without seeing three Columns.

Additionally the texts, started with 'Note that there is only two groups...', are incorrect. The first group should be shared by D1 and D3, and the second group by D2.

SuggestedRemedy

Revive the old three-Column table for Table 75-5, and fill all the PR-D3/PRX-D3 values same as those of PR-D1/PRX-D1. Or, fill the PR-D3/PRX-D3 Column across with the text 'same as 10GBASE-PR-D1 and 10/1GBASE-PRX-D1 transmit parameters'.

Delete all the notes about 'two groups of transmit parameters' in Lines 22-25.

Table 75-6 and Table 75-11 should also be revisited.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Note on "Table 75-6 and Table 75-11 should also be revisited." is not entirely clear.
See comment #2835 for proposed changes to Table 75-6.
See comment #2846 for proposed changes in the text on PMD groups in lines 22 - 23.

Cl **75** *SC* **75.4.1** *P* **77** *L* **23** # 2878

Tajima, Akio NEC Corporation

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

The description of OLT PMDs is wrong.

SuggestedRemedy

Change "The first group is shared by 10GBASE.PR.D1, 10/1GBASE.PRX.D1, 10GBASE.PR.D2, and 10/1GBASE.PRX.D2. The second group is shared by 10GBASE.PR.D3 and 10/1GBASE.PRX.D3." to "The first group is shared by 10GBASE.PR.D1, 10/1GBASE.PRX.D1, 10GBASE.PR.D3, and 10/1GBASE.PRX.D3. The second group is shared by 10GBASE.PR.D2 and 10/1GBASE.PRX.D2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
[Subclause number was fixed]
Change to "The first group is shared by 10GBASE-PR-D1, 10/1GBASE-PRX-D1, 10GBASE-PR-D3, and 10/1GBASE-PRX-D3. The second group is shared by 10GBASE-PR-D2 and 10/1GBASE-PRX-D2."

Cl **75** *SC* **75.4.1** *P* **77** *L* **23** # 2846

Hajduczenia, Marek ZTE Corporation

Comment Type **T** *Comment Status* **D** *PMD group issue*

Text "The first group is shared by 10GBASE-PR-D1, 10/1GBASE-PRX-D1, 10GBASE-PR-D2, and 10/1GBASE-PRX-D2. The second group is shared by 10GBASE-PR-D3 and 10/1GBASE-PRX-D3." is not technically correct (not consistent with Table 75-5). Needs to be updated as below

SuggestedRemedy

Change it to "The first group is shared by 10GBASE-PR-D1, 10/1GBASE-PRX-D1, 10GBASE-PR-D3, and 10/1GBASE-PRX-D3. The second group is shared by 10GBASE-PR-D2 and 10/1GBASE-PRX-D2."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.4.1** *P* **77** *L* **2325** # 2820

Lin, Rujian Shanghai Luster Terab

Comment Type **T** *Comment Status* **D** *PMD group issue*

The first group is shared by 10GBASE-PR-D1, 10/1GBASE-PRX-D1, 10GBASE-PR-D2, and 10GBASE-PRX-D2. The second group is shared by 10GBASE-PR-D3 and 10/1GBASE-PRX-D3

SuggestedRemedy

Change to "The first group is shared by 10GBASE-PR-D1, 10/1GBASE-PRX-D1, 10GBASE-PR-D3, and 10/1GBASE-PRX-D3. The second group is shared by 10GBASE-PR-D2 and 10/1GBASE-PRX-D2"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See comment #2846

Cl **75** *SC* **75.4.1** *P* **77** *L* **35** # 2845

Hajduczenia, Marek ZTE Corporation

Comment Type **T** *Comment Status* **D** *1574-1575 issue*

In table 75-5, "Wavelength (range)" is still defined as "1574 to 1580" and should be "1575 to 1580"

SuggestedRemedy

as per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.4.1** *P* **77** *L* **35** # 2821

Lin, Rujian Shanghai Luster Terab

Comment Type **T** *Comment Status* **D** *1574-1575 issue*

In the 3rd row of Table 75-5, Wavelength (range) 1574 to 1580 nm

SuggestedRemedy

Change Wavelength(range) to "1575 to 1580" nm
The same change is applied to Table 75-11

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Also comment #2845.

Cl **75** *SC* **75.4.1** *P* **77** *L* **43** # 2869

Frank , Chang Vitesse

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

Suggest numbers are rounded to nearest 0.1. For important Tp2 or Tp6 interop points, I donot think "3.91dBm launching OMA" serve any better than 3.9dBm.

SuggestedRemedy

Suggest to change "3.91" to "3.9", while "6.91" to "6.9" in line 43.

May add one footnote: OMA numbers are rounded to nearest 0.1dB.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Number resulting from calculatiosn are given with two decimal digit precision, as in Clause 60 e.g. -0.22 dBm in Table 60-3.

Cl **75** *SC* **75.4.2** *P* **79** *L* **1** # 2835

Hajduczenia, Marek ZTE Corporation

Comment Type **E** *Comment Status* **D** *Table 75-6*

In table 75-6, there are 3 columns with PMD paramers, though 10GBASE-PR-D2 and 10GBASE-PR-D3 have them exactly the same. They can be collapsed as presented in 3av_0901_hajduczenia_1.pdf

SuggestedRemedy

as per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.4.2** *P* **79** *L* **531** # 2870

Frank , Chang Vitesse

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

Suggest numbers are rounded to nearest 0.1 in Table 75-6, 75-7.

Seems alot of changes, I will provide slides for both tables.

Also table 75-8, 75-9, 75-11.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED REJECT.
[Page number was changed, was against 79-82]
See #2869 for rationale.

Cl **75** *SC* **75.5.1** *P* **94** *L* **44** # 212764

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* **75.6** *P* **85** *L* **34** # 2791

Hamano, Hiroshi Fujitsu Labs. Ltd.

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

The texts in Subclause 75.6.1 and 75.6.2 describe that the word 'downstream' or 'upstream' is not only a direction indicator, but is a part of the name for a specific function, such as 'the downstream dual-rate operation' or 'the upstream dual-rate operation', which can be enabled.

SuggestedRemedy

Delete 'Direction of' from the first cell in Table 75-12.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.6.1.2** *P* **71** *L* **37** # 202406

Law, David 3Com

Comment Type **TR** *Comment Status* **A** *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* **75.7.10** *P* **89** *L* **28** # 2822

Lin, Rujian Shanghai Luster Terab

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

TDP measurement tests transmitter impairments caused by chromatic dispersion effects due to signal propagation in SMF used in PON. Possible causes of impairment in clude intersymbol interference, jitter, and RIN. Meeting the separate requirements (e.g. eye mask, spectral characteristics) does not in itself guarantee the transmitter and dispersion penalty (TDP).

SuggestedRemedy

Modified to "TDP measurement tests PON system impairments caused by joint effects of transmitter characteristics and chromatic dispersion due to optical signal propagation in SMF used in PON. Possible causes of impairment include intersymbol interference, mode partitioning noise, jitter, and RIN. Meeting the separate requirements (e.g. transmitter eye mask, spectral characteristics) does not in itself guarantee the transmitter and dispersion penalty (TDP)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
[Line number was changed, was "2831"]
Modify to "TDP measurement tests transmitter impairments caused by chromatic dispersion effects due to signal propagation in SMF used in PON. Possible causes of impairment include intersymbol interference, jitter, and RIN. Meeting the separate requirements (e.g. eye mask, spectral characteristics) does not in itself guarantee the transmitter and dispersion penalty."
Chromatic dispersion is the effect of non-ideal signal generated by laser source and as such is a transmitter caused impairment.

Cl **75** *SC* **75.7.12** *P* **89** *L* **42** # 2874

Frank , Chang Vitesse

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

Compliance with SRS is specified as mandatory, but feel hard to follow such short note as described in "75.7.12 Stressed receiver conformance test".

I reviewed 802.3ah 58.7.11 for 1G PHY and 802.3ae 52.9.9 for 10G PHY, this may be possibly applicable to downstream directly, difficult and confusing for upstream. (So far I have not seen anybody follow this from published papers.)

Also FEC is mandatory, to test SRS for module alone at BER=1E-3 is pretty challenging.

SuggestedRemedy

???

1) Remove "mandatory" for US?

2) another option is to specify RX testing methodology based on two ONUs (TX). I can provide slides for that.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
There is neither consistent suggested remedy nor slides to go with this comment.

Cl **75** *SC* **75.7.15** *P* **90** *L* **1718** # 2810

Lin, Rujian Shanghai Luster Terab

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

b) Treceiver_settling is defined in 60.7.13.2.1 and its value is defined in Table 75-6 and Table 75-7.
c) TCDR is defined in 76.4.21, and its value less than 400 ns.

SuggestedRemedy

b) Treceiver_settling is defined in 60.7.13.2.1, and its value is defined in Table 75-6 and Table 75-7.
c) TCDR is defined in 76.4.21, and its value is less than 400 ns.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75** *SC* **75.7.16** *P* **90** *L* **23** # 2876

Frank , Chang Vitesse

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

10G-EPON burst mode including RX settling and CDR locking should indicate the preample patterns.

SuggestedRemedy

Suggest to revisit 0x55 as preample patern (refer to 3av_0805_effenberger_3)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Topic was visited, discussed, voted on and closed. Unless there are new arguments in favour or against the TF decision, the topic is closed.

Cl **75** *SC* **75.7.2** *P* **86** *L* **3542** # 2873

Frank , Chang Vitesse

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

confusing. I assume "75.7.2 Allocation for penalties in 10G-EPON PMDs" should call to explain the numbers we enter into line 18 of Table 75B-1.

SuggestedRemedy

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Indeed text in 75.7.2 should be clarified and extended to account for all penalties which are then accounted for in the values provided in Table 75B-1 and 75B-2 in the "Allocation for penalties" parameter. Waiting for contributions.

Cl **75B** *SC* **75B.2.1** *P* **107** *L* **38** # 2847

Hajduczenia, Marek ZTE Corporation

Comment Type **T** *Comment Status* **D** *1574-1575 issue*

"The 10 Gb/s downstream transmission uses the 1574 - 1580 nm wavelength band, as specified in Clause 75." is incorrect. Change as proposed below

SuggestedRemedy

Change to "The 10 Gb/s downstream transmission uses the 1575 - 1580 nm wavelength band, as specified in Clause 75."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See comment #2811.

Cl **75B** *SC* **75B.2.1** *P* **107** *L* **38** # 2811

Lin, Rujian Shanghai Luster Terab

Comment Type **T** *Comment Status* **D** *1574-1575 issue*

The 10 Gb/s downstream transmission uses 1574-1580 nm.....

SuggestedRemedy

The 10 Gb/s downstream transmission uses 1575-1580 nm.....

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Was "E", changed to "T"]
[Changed Clause from "Annex" to "75B"]

Cl **75B** *SC* **75B.2.1** *P* **108** *L* **1** # 2848

Hajduczenia, Marek ZTE Corporation

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

Table 75B-1 and 75B-2 would be more complete if it was explained like in Table 75-14 that "Other fiber types are acceptable if the resulting ODN meets channel insertion loss and dispersion requirements.". Otherwise, it seems we redefeine requirements for fiber in two different places in two different ways.

SuggestedRemedy

Add footnote "Other fiber types are acceptable if the resulting ODN meets channel insertion loss and dispersion requirements." to parameter name "Fiber type" in Table 75B-1 and 75B-2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **75C** *SC* **75C.1** *P* **112** *L* **112** # 2812

Lin, Rujian Shanghai Luster Terab

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

The location of Figure 75c-1 is improper.

SuggestedRemedy

Move the location of Figure 75C-1 down below Table 75C-3 and above Table 75C-4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
[Changed Clause from "Annex" to "75C"]

Cl **76** *SC* **76.2.1** *P* **115** *L* **48** # 2800

Mandin, Jeff PMC Sierra

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

Clause 65 defines the RS, PCS, and PMA for 1G.

It's not the case that the RS for 10G-EPON subclause (76.2) "extends" clause 65. Though 76.2 does incorporate the P2MP preamble from clause 65.

It's probably OK to just delete the reference to cl65.

SuggestedRemedy

Change:

"This subclause extends Clause 46 to enable multiple data link layers to interface with a single physical layer and Clause 65 to enable 10/1G-EPON data links, transmitting at one data rate (e.g. 10 Gb/s) and receive at
another data rate (e.g. 1 Gb/s)."

to:

"This subclause extends Clause 46 to enable multiple data link layers to interface with a single physical layer, and to enable data links which transmit at one data rate (e.g. 10 Gb/s) and receive at another data rate (e.g. 1 Gb/s)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.2.1.3** *P* **162** *L* **37** # 212712

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* **119** *L* **4** # 2849

Hajduczenia, Marek ZTE Corporation

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

Text reads "For 10G-EPON architectures, the XGMII is the interface used to transfer data between the MAC and the PHY." is not true since 10G-EPON also has GMII as per definitions in Clause 1.4

SuggestedRemedy

Change to read "For 10/10G-EPON architectures, the XGMII is the interface used to transfer data between the MAC and the PHY."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.2.2.3** *P* **120** *L* **1** # 2836

Hajduczenia, Marek ZTE Corporation

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

Figure 76-3 needs minor changes. we still use 10/10 Gb/s and 10/1 Gb/s. Change as proposed below

SuggestedRemedy

Change "10/10 Gb/s" to "10/10G-EPON"
Change "10/1 Gb/s" to "10/1G-EPON"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

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* **139** *L* **5** # 2852

Dawe, Piers Avago Technologies

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

Does this pseudo-C fragment say anything that the sentence above doesn't? It uses three sorts of brackets; what does this signify? The response to D2.1 comment 2712 didn't address these questions. Is '...' proper C syntax?

SuggestedRemedy

Delete this fragment or, if you must, make it part of an executable program in an informative annex. Similarly with the other fragments.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See response to Comment #2712

Cl **76** *SC* **76.2.2.5.3** *P* **181** *L* **5** # 212713

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** *P* **121** *L* **16** # 2815

Lin, Rujian Shanghai Luster Terab

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

or to an XGMII

SuggestedRemedy

or to a XGMII

Proposed Response *Response Status* **W**

PROPOSED REJECT.
In this case the "an" is correct as "X", if written out begins with the letter "e".

Cl **76** *SC* **76.2.3.1.3** *P* **187** *L* **40** # 212714

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* **76.2.3.2** *P* **121** *L* **37** # 2801

Mandin, Jeff PMC Sierra

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

Currently, the "Delay Constraints" for the PHY layer (ie. RS, PCS, and PMA sublayers) appears in the "summary of major concepts" of the RS.

It seems more appropriate for the section to appear at the beginning of c76.

SuggestedRemedy

Move 76.2.3.2 to after 76.1.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Move to new subclause 76.1.2

Cl **76** *SC* **76.2.3.2** *P* **121** *L* **41** # 2802

Mandin, Jeff PMC Sierra

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

Incorrect reference

SuggestedRemedy

Change "72.2.2.1" to "77.2.2.1"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Make active link to 77.2.2.1.

Cl **76** *SC* **76.3.2** *P* **125** *L* **4648** # 2814

Lin, Rujian Shanghai Luster Terab

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

In the OLT, the PCS operates at a 10 Gb/s rate in a continuous mode. In the ONU, the PCS may operate at a 10 Gb/s rate, as specified herein (10GBASE-PR), or at a 1 Gb/s rate, compliance with Cause 65 (10/1GBASE-PRX).

SuggestedRemedy

In the OLT, the PCS transmit function operates at 10 Gb/s rate in a continuous mode. In the ONU, the PCS transmit function may operate at 10 Gb/s rate, as specified herein (10GBASE-PR), or at 1 Gb/s rate, compliance with Cause 65 (10/1GBASE-PRX).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
As suggested but change "compliance with Cause 65" to "compliant with Cause 65"

Cl **76** *SC* **76.3.2.1** *P* **126** *L* **40** # 2837

Hajduczenia, Marek ZTE Corporation

Comment Type **E** *Comment Status* **D** *Fig 76-9/10 ref*

Text says "The Idle Detection function is implemented in the PCS as depicted in Figure 76û10 for ONUs and as depicted in Figure 76û9 for OLTs." while Figure 76-9 is first in the draft. Change as proposed below.

SuggestedRemedy

Change to read "The Idle Detection function is implemented in the PCS as depicted in Figure 76û9 for OLT and as depicted in Figure 76û10 for ONUs."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.1** *P* **126** *L* **4041** # 2813

Lin, Rujian Shanghai Luster Terab

Comment Type **E** *Comment Status* **D** *Fig 76-9/10 ref*

as depicted in Figure 76-10 for ONUs and as depicted in Figure 76-9 for OLTs.

SuggestedRemedy

as depicted in Figure 76-9 for OLTs and as depicted in Figure 76-10 for ONUs.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.4.1** *P* **131** *L* **22** # 2803

Mandin, Jeff PMC Sierra

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

Draft 2.2 removed the statement that the value of "alpha" for the GF used to define the RS(255, 223) code is represented bitwise as 0x02.

Some treatments/implementations of RS codes use reversed bit-ordering (cf. "Error Control Coding" by Lin and Costello pg. 564). Using the different representation of alpha will result in different Ax constants.

Hence the representation of alpha should be stated explicitly.

SuggestedRemedy

Change:

"alpha is a root of the binary primitive polynomial x8+x4+x3+x2+1"

to:

"alpha is a root of the binary primitive polynomial x8+x4+x3+x2+1 and is represented as 0x02"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.4.1** *P* **131** *L* **45** # 2839

Hajduczenia, Marek ZTE Corporation

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

Text says "A FEC parity vector is presented by" while it should say "A FEC parity vector is represented by"

SuggestedRemedy

as per comment

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.4.1** *P* **131** *L* **52** # 2816

Lin, Rujian Shanghai Luster Terab

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

D0 is the

SuggestedRemedy

the subscript of D0 should not be in Italic form.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Per IEEE Style Manual subclause 17.3 "Presentation of equations" (pg 29) the use if italic in this context is correct.

Cl **76** *SC* **76.3.2.4.1** *P* **132** *L* **18** # 2817

Lin, Rujian Shanghai Luster Terab

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

P31is the first parity octet and P0 is the last. A data octet (P7, d6,...,d1,d0) is identified with.....
The d0 is identified as the LSB and d7 is identified as the MSB.....

SuggestedRemedy

Unify the subscript not in Italic form.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
The problem is the symbols d0 and d7 in the refereced sentence are not included as frame "shrink wrapped" equations. The errant symbols will be fixed.

Cl **76** *SC* **76.3.2.4.1** *P* **132** *L* **6** # 2838

Hajduczenia, Marek ZTE Corporation

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

Text "Note- for the (255,223) Reed-Solomon code, the symbol size equals one octet. The d0 is identified as the LSB and d7 is identified as the MSB for all octets in accordance with the conventions of 3.1.1. Bit ordering shall be as illustrated in Figure 76û12." should have NOTE format and it does not

SuggestedRemedy

Format accordingly.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.5** *P* **135** *L* **13** # 2840

Hajduczenia, Marek ZTE Corporation

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

Text says "ONUs are be turned off between transmissions."

SuggestedRemedy

and shoudl say "ONUs are turned off between transmissions."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.5** *P* **135** *L* **13** # 2818

Lin, Rujian Shanghai Luster Terab

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

ONUs are be turned off between transmissions.

SuggestedRemedy

ONUs are turned off between transmissions.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.5** *P* **135** *L* **3349** # 2823

Lin, Rujian Shanghai Luster Terab

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

In Figure 76-14, there is no EOB after data and FEC.

SuggestedRemedy

According Figure 76-15, there should be a EOB after the last FEC codeword. So Figure 76-14 should be modified to show a EOB after the last FEC codeword.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76** *SC* **76.3.2.5** *P* **136** *L* **950** # 2875

Frank , Chang Vitesse

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

I just realize the change of burst mode sync patterns which favor certain implementations. Taking into account of the 1G EPON practice, and 10GEPON on ac-coupling different from GPON, suggest to revisit 0x55 as preample patern (refer to 3av_0805_effenberger_3)

SuggestedRemedy

Suggest to revisit 0x55 as preample patern (refer to 3av_0805_effenberger_3)

Proposed Response *Response Status* **W**

PROPOSED REJECT.
New sync pattern was thoroughly debated in the task force and accepted as described.
Comment author is encouraged to present evidence supporting his suggested change.

Cl **76** *SC* **76.3.2.5** *P* **137** *L* **3054** # 2877

Frank , Chang Vitesse

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

I am pretty confused the conversion from hexadecimal to binary such as 0x55=1010 not 0101 if you check the following table.

Dec Hex Bin
0 0 0000
1 1 0001
2 2 0010
3 3 0011
4 4 0100
5 5 0101
6 6 0110
7 7 0111
8 8 1000
9 9 1001
10 A 1010
11 B 1011
12 C 1100
13 D 1101
14 E 1110
15 F 1111

SuggestedRemedy

Correct the inconsistency in the conversion from hexadecimal to binary, or did I miss anything?

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Hex representation is believed to be correct.

Cl **76** *SC* **76.3.2.5.3** *P* **139** *L* **1** # 2851

Dawe, Piers Avago Technologies

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

The committee replied to D2.1 comment 2712 with some criticism of Pascal and a claim that C is a popular programming language but does not justify the use a programming language rather than English words (or state machine notation). It points to an example in 61A.3. That example is, I believe, a proper program that could run, which makes it unambiguous even if the reader is not fully expert in C, and it's informative, so one does not have to understand it to use the standard. In contrast, the fragments in this clause are incomplete and won't run (hence ambiguous), don't seem to serve any useful purpose, put an unnecessary burden on the standard's users, and raise ambiguity because they attempt to redefine material stated in English words. State diagrams with embedded bits of C is particularly horrible.

SuggestedRemedy

If you must decorate the draft with C, put the pieces together into one or a few executable programs in an informative appendix. Write the normative standard with the methods that the other 70+ clauses have found adequate; principally English words, failing that in state diagrams, Pascal or Matlab. Avoid short fragments. And, avoid pseudo-code.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See resolution to comment #2712

Cl **76** *SC* **76.3.3.3** *P* **151** *L* **5** # 2798

Mandin, Jeff PMC Sierra

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

Terminology

SuggestedRemedy

Change:

"The FEC decoder provides a user option to indicate an uncorrectable FEC block (due to an excess of symbols containing errors) to the PCS layer."

to:

The FEC decoder provides a user option to indicate an uncorrectable FEC block (due to an excess of symbols containing errors) to the higher layers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **76A** *SC* **76A.1** *P* **165** *L* **56** # 2853

Dawe, Piers Avago Technologies

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

Draft says 'http://www.ieee802.org/3/av/online_resources/' This is not the usual place for such downloads.

SuggestedRemedy

Please review with 802.3 chair.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Will review with WG Chair and change if necessary.

Cl **77** *SC* **77.2.2.3** *P* **183** *L* **36** # 2807

Mandin, Jeff PMC Sierra

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

The alignmentCorrect variable also checks for the data (rather than parity) transmission region.

This important function should be reflected in the name of the variable.

SuggestedRemedy

Change "alignmentCorrect" to either "alignmentAndTransmitRegionCorrect" or perhaps "DataTransmitOK"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
Original variable name reads fine. Unless there is a valid reason for variable change, I would prefer to avoid doing that (changes also figures which is unnecessary at this point).

Cl **77** *SC* **77.2.2.3** *P* **183** *L* **40** # 2819

Lin, Rujian Shanghai Luster Terab

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

It is reset to false on the with the next increment of fecOffest.

SuggestedRemedy

It is reset to false with the next increment of fecOffest.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **77** *SC* **77.2.2.7** *P* **190** *L* **41** # 2805

Mandin, Jeff PMC Sierra

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

The FEC_Overhead() function duplicates logic already present elsewhere in the control multiplexer - consequently unneccessary IDLEs are appended following end-of-frame.

This is one of three significant technical issues related to FEC handling in MPCP. The TF should evaluate these issues and resolve them in the current draft or the next one.

SuggestedRemedy

See 3av_0109_mandin_2.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **77** *SC* **77.2.2.7** *P* **190** *L* **9** # 2804

Mandin, Jeff PMC Sierra

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

The OLT control multiplexer erroneously performs the check for the PCS Parity region before it receives permission for transmission from Multipoint Transmission Control.

As a consequence there is no effective check for whether the PCS is transmitting parity - leading to transmit delay variation in excess of the maximum value of 1 TQ.

A similar problem is found in the ONU control multiplexer.

This is one of three serciou issues related to FEC handling in MPCP. The TF should evaluate these issues and resolve them in the current draft or the next one.

SuggestedRemedy

See 3av_0109_mandin_1.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **77** *SC* **77.2.2.7** *P* **191** *L* **8** # 2806

Mandin, Jeff PMC Sierra

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

The alignmentCorrect variable (used to check for PCS-layer parity transmission) delays frames so that they always start on column boundaries - and this prevents the application of the efficient Deficit Idle Count mechanism (clause 46).

This delay is unnecessary, because the operation of the DIC algorithm is transparent to the MPCP layer (as shown in the attached slides).

This is one of three significant technical issues related to FEC handling in MPCP. The TF should evaluate these issues and resolve them in the current draft or the next one.

SuggestedRemedy

See 3av_0109_mandin_3.pdf

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **99** *SC* **99** *P* **2** *L* **11** # 2824

Hajduczenia, Marek ZTE Corporation

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

"single SM fiber" looks plain old wierd. There is a common abbreviation which can be used i.e. SMF

SuggestedRemedy

Change "single SM fiber" to "single SMF". The same also for line 12

Proposed Response *Response Status* **W**

[Changed CommentType from "!" to "E"]

Cl **99** *SC* **99** *P* **2** *L* **12** # 212707

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* **12** # 2865

Dawe, Piers Avago Technologies

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

This abstract avoids telling the reader that there is a draft new transmission scheme in Annex 31C, unrelated to anything described here.

SuggestedRemedy

Add a sentence: 'A MAC Control organization specific extension enables Physical Layer Operations, Administration, and Management (PLOAM) messages.'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change: "This amendment to IEEE Std 802.3–2008 provides physical layer specifications and management parameters for 10G-EPON on point–to–multipoint passive optical networks."

To: "This amendment to IEEE Std 802.3–2008 provides physical layer specifications and management parameters (including a MAC Control organization specific extension) for 10G-EPON on point–to–multipoint passive optical networks."

Cl **99** *SC* **99** *P* **2** *L* **18** # 2826

Hajduczenia, Marek ZTE Corporation

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

Inconsistent capitalization for "forward error correction (FEC)"

SuggestedRemedy

Change to "Forward Error Correction (FEC)"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Change all (1) instances (c56, pg 56 line 14) of "Forward Error Correction" to "forward error correction"

Cl **99** *SC* **99** *P* **2** *L* **5** # 2825

Hajduczenia, Marek ZTE Corporation

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

is "already deployed equipment.". Can be further specified

SuggestedRemedy

Change "already deployed equipment." to "already deployed 1G-EPON equipment."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
(we wouldn't want the reader to be comfused with already deployed GPON equipment)