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

Turner, Michelle

Comment Type **ER** *Comment Status* **X**

This draft has met all editorial requirements.

SuggestedRemedy

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **122** *L* **10** # 4

Kramer, Glen Teknovus, Inc.

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

[Marked subclause 0 since it applies to clauses C76 and C77]
Draft uses 7 instances of "byte", while the convention is to use "octets"

SuggestedRemedy

replace "byte" with "octet"
replace "bytes" with "octets"
page 122, line 3 - 1 instance
page 122, line 10 - 2 instances
page 122, line 11 - 2 instances
page 122, line 12 - 1 instance
page 146, line 3 - 1 instance
page 174, line 53 - 1 instance
page 215, line 41 - 1 instance
page 215, line 43 - 1 instance

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **155** *L* **30** # 5

Kramer, Glen Teknovus, Inc.

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

[Marked subclause 0 since it applies to multiple clauses]
still many instances where n-bit misses the hyphen

SuggestedRemedy

insert hyphens
page 155, line 30 ---64 bit payload
page 160, line 14 ---64 bit payload
page 162, line 38 --- 32 bit timestamp
page 173, line 26 --- 32 bit unsigned
page 173, line 42 --- 32 bit unsigned
page 174, line 13 --- 16 bit unsigned
page 174, line 30 --- 32 bit unsigned
page 174, line 36 --- 16 bit unsigned
page 174, line 43 --- 16 bit unsigned
page 174, line 47 --- 16 bit unsigned
page 175, line 2 --- 16 bit unsigned
page 175, line 7 --- 32 bit unsigned
page 175, line 12 --- 32 bit unsigned
page 175, line 21 --- 8 bit unsigned
page 174, line 51 --- 16 bit unsigned
page 183, line 49 --- 16 bit wide
page 187, line 25 --- 8 bit unsigned
page 187, line 33 --- 8 bit unsigned
page 187, line 53 --- 32 bit unsigned
page 188, line 11 --- 8 bit unsigned
page 188, line 17 --- 8 bit unsigned
page 188, line 32 --- 16 bit unsigned
page 188, line 41 --- 16 bit unsigned
page 197, line 37 --- 32 bit unsigned
page 201, line 47 --- 32 bit unsigned
page 201, line 53 --- 32 bit unsigned
page 202, line 5 --- 32 bit unsigned
page 202, line 36 --- 48 bit unsigned
page 202, line 37 --- 32 bit unsigned
page 202, line 38 --- 16 bit unsigned
page 202, line 53 --- 32 bit unsigned
page 203, line 18 --- 16 bit unsigned
page 203, line 34 --- 32 bit unsigned

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.32** *P* **44** *L* **18** # 43

Kramer, Glen Teknovus, Inc.

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

[Submitted on behalf of Eric Lynskey]
The text swaps the positions of FEC and uncorrected, and is inconsistent with the title of the subclause.

SuggestedRemedy

Change to: uncorrected FEC codewords counter.

Proposed Response *Response Status* **O**

Cl **75** *SC* **75.1.4** *P* **61** *L* **11** # 10

Hamano, Hiroshi Fujitsu Component LT

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

In recent drafts, the words '10/10G-EPON' and '10/1G-EPON' are mainly used instead of 'symmetric-rate' and 'asymmetric-rate'. They are already defined in Subclause 1.4, and no consistency problem exists. But the wording clarification once again in Clause 75 seems much friendlier to the readers.
'10/10G-EPON' and '10/1G-EPON' appear first only slightly in Subclause 75.1.5. But they should be more clearly described in earlier introductory stage of the draft.

SuggestedRemedy

Insert '10/10G-EPON' and '10/1G-EPON' words in the texts as follows;
* PRX-type power budget describes asymmetric-rate PHY for PON operating at 10 Gb/s downstream and 1 Gb/s upstream over a single SMF, i.e. 10/1G-EPON (see objective b.1 above).
* PR-type power budget describes symmetric-rate PHY for PON operating at 10 Gb/s downstream and 10 Gb/s upstream over a single SMF, i.e. 10/10G-EPON (see objective b.2 above).

Proposed Response *Response Status* **O**

Cl **75** *SC* **75.4** *P* **70** *L* **16** # 11

Hamano, Hiroshi Fujitsu Component LT

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

The example description '(e.g., a single-mode solution operating at 10.5 km meets the minimum range requirement of 0.5 m to 10 km for PR10)' is strange, unclear, and misleading.
- There exists no minimum range requirement of 0.5 m to 10 km for PR10 in Table 75-1. It was already replaced by maximum reach requirement of >=10 km.
- 10G-EPON has no multi-mode solutions along with a single-mode one, unlike 1000BASE-LX (Subclause 38.4).

SuggestedRemedy

Delete '(e.g., a single-mode solution operating at 10.5 km meets the minimum range requirement of 0.5 m to 10 km for PR10)'.
It seems that the text just before the description is not necessary, either.

Proposed Response *Response Status* **O**

Cl **75** *SC* **75.5** *P* **73** *L* **41** # 12

Hamano, Hiroshi Fujitsu Component LT

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

The example description '(e.g., a single-mode solution operating at 10.5 km meets the minimum range requirement of 0.5 m to 10 km for PR10)' is strange, unclear, and misleading.
- There exists no minimum range requirement of 0.5 m to 10 km for PR10 in Table 75-1. It was already replaced by maximum reach requirement of >=10 km.
- 10G-EPON has no multi-mode solutions along with a single-mode one, unlike 1000BASE-LX (Subclause 38.4).

SuggestedRemedy

Delete '(e.g., a single-mode solution operating at 10.5 km meets the minimum range requirement of 0.5 m to 10 km for PR10)'.
It seems that the text just before the description is not necessary, either.

Proposed Response *Response Status* **O**

Cl **75** *SC* **75.5.1** *P* **74** *L* **17** # 13

Hamano, Hiroshi Fujitsu Component LT

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

Footnote for Launch OMA (min) is mistaken.

SuggestedRemedy

Change footnote 'c' to 'b'.

Proposed Response *Response Status* **O**

Cl **75** *SC* **75.7.10** *P* **82** *L* **28** # 14

Hamano, Hiroshi Fujitsu Component LT

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

TDP indicates transmitter AND dispersion penalty, which includes also transmitter impairments NOT caused by chromatic dispersion effects.

SuggestedRemedy

Change the text
'TDP measurement tests transmitter impairments caused by chromatic dispersion effectsc'
to
'TDP measurement tests transmitter impairments and its chromatic dispersion effectsc'

Proposed Response *Response Status* **O**

Cl **75B** *SC* **75B.2** *P* **99** *L* **24** # 20

Feng, Dongning Huawei

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

Speficied?

SuggestedRemedy

Specified

Proposed Response *Response Status* **O**

Cl **75C** *SC* **75C.1** *P* **102** *L* **23** # 44

Hajduczenia, Marek ZTE Corp.

Comment Type **T** *Comment Status* **X**

Thank you for correcting Dj to DJ and so on. There is still the issue of "p-p". My point is that there is a parameter called "peak-to-peak jitter" which is a menu pick on an oscilloscope. It is none of these. In a typical measurement, DJ would be less than "peak-to-peak jitter", TJ would be greater than it, and RJ could be either. These jitter metrics DJ, RJ and TJ might be two-sided (late time - early time, not late time - average time) but they don't involve the measured peaks.

SuggestedRemedy

Delete "p-p", six times. If you want a reference for jitter metrics, it's MJSQ - I can provide the details if you are interested.

Proposed Response *Response Status* **O**

Cl **76** *SC* **76.2.1** *P* **105** *L* **37** # 45

Hajduczenia, Marek ZTE Corp.

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

Per ISO/IEC 7 layer standard, I believe "data link layers" should be "Data Link Layers". Although I'm not sure it can be plural, strictly; could change to "MACs". Per 802.3 editors' advice, Physical Layer has capitals.

SuggestedRemedy

Change "data link layers to interface with a single physical layer" to "MACs to interface with a single Physical Layer"

Proposed Response *Response Status* **O**

Cl **76** *SC* **76.3.2.4.3** *P* **124** *L* **5** # 21

Feng, Dongning Huawei

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

2 bit?

SuggestedRemedy

2-bit or 2 bits

Proposed Response *Response Status* **O**

Cl **76** *SC* **76.3.3.1** *P* **132** *L* **13** *#* 7

Kramer, Glen Teknovus, Inc.

Comment Type **T** *Comment Status* **X**

The OLT codeword synchronization function receives data via the 16-bit PMA_UNITDATA.request primitive is incorrect. PMA_UNITDATA.request should be PMA_UNITDATA.indication Compare to similar text for ONU synchronization.

SuggestedRemedy

Replace PMA_UNITDATA.request with PMA_UNITDATA.indication.

Proposed Response *Response Status* **O**

Cl **76** *SC* **76.3.3.2.5** *P* **140** *L* **52** *#* 8

Kramer, Glen Teknovus, Inc.

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

The OLT synchronizer state diagram has title "Figure 76--18--OLT Synchronizer state diagram", but the ONU synchronizer state diagram has title "Figure 76--20--Codeword lock state diagram". It would be nicer to give these two figures similar titles.

SuggestedRemedy

Change "Figure 76--20--Codeword lock state diagram" to "Figure 76--20--ONU Synchronizer state diagram"

Proposed Response *Response Status* **O**

Cl **76** *SC* **76.3.3.3.2** *P* **141** *L* **44** *#* 42

Kramer, Glen Teknovus, Inc.

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

[Submitted on behalf of Eric Lynskey]
The two FEC counters defined here are mapped back to 45.2.3.31. If you go to Clause 45, it gives the counters a slightly different name. Instead of FEC_corrected_blocks_counter, it uses corrected_FEC_codewords_counter. It's a fairly minor issue, but it would be nice to use consistent names.

SuggestedRemedy

Rename counters in Clause 76 to match those in Clause 45.

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.1** *P* **155** *L* **18** *#* 22

Feng, Dongning Huawei

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

locatio

SuggestedRemedy

location

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.2** *P* **155** *L* **37** *#* 2

Hajduczenia, Marek ZTE Corp.

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

To improve readability, please make sure that Table 76A-1 is not divided between pages.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.2** *P* **156** *L* **30** *#* 23

Feng, Dongning Huawei

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

hexidecimal? wrong spell

SuggestedRemedy

hexadecimal

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.5** *P* **159** *L* **27** *#* 24

Feng, Dongning Huawei

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

hexidecimal? wrong spell

SuggestedRemedy

hexadecimal

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.6** *P* **159** *L* **46** # 25

Feng, Dongning Huawei

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

hexidecimal? wrong spell

SuggestedRemedy

hexadecimal

Proposed Response *Response Status* **O**

Cl **76A** *SC* **76A.7** *P* **159** *L* **53** # 3

Hajduczenia, Marek ZTE Corp.

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

To improve readability, please make sure that Table 76A-6 is not divided between pages.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.1** *P* **161** *L* **11** # 30

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
in the signal's paths from source to destination.

SuggestedRemedy

in the signal's paths from source to destinations.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.1.2** *P* **163** *L* **22** # 31

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
MACs are uniquely identified by their LLID which is dynamically assigned by the registration process.

SuggestedRemedy

MACs are uniquely identified by their LLIDs dynamically assigned by the registration process.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.3** *P* **173** *L* **41** # 48

Hajduczenia, Marek ZTE Corp.

Comment Type **T** *Comment Status* **X**

Variable fecOffset is described as "A clock that advances by 1 after every 8 bit times.". It is not a clock but a variable that advances on clock transitions.

SuggestedRemedy

Change "A clock that advances by 1 after every 8 bit times." to "A variable that advances by 1 every 8 bit times."

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.3** *P* **173** *L* **45** # 49

Hajduczenia, Marek ZTE Corp.

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

To simplify the reading process, cross-reference to Figure 77-14 would be nice in the definition of fecOffset variable.

SuggestedRemedy

Add "(see Figure 77-14)" at the end of line 46, make link live.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.3** *P* **175** *L* **32** # 26

Feng, Dongning Huawei

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

arrray?

SuggestedRemedy

array

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.3** *P* **175** *L* **42** # 32

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
in the process of transmitting a Frame.

SuggestedRemedy

in the process of transmitting a frame.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.4** *P* **176** *L* **40** # 27

Feng, Dongning Huawei

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

arrray?

SuggestedRemedy

array

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.7** *P* **181** *L* **13** # 9

Kramer, Glen Teknovus, Inc.

Comment Type **T** *Comment Status* **X**

In the past, the TF has decided to remove Start of Packet alignment function from the PCS sublayer. The arguments were that implementers may or may not implement this function without affecting interoperability. If not implemented, the additional overhead is insignificant. However, with the new ONU Control Multiplexer state diagram in D3.3, it appears there is a very small modification that will guarantee alignment of S character of the first frame in a burst to lane 0 of the first column.

SuggestedRemedy

In Figure 77-14 in transition from FRAME READY to START OF GRANT, change "1" to "2"
old condition: grantStart * fecOffset[1:0] = 0
new condition: grantStart * fecOffset[2:0] = 0

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.2.2.7** *P* **181** *L* **13** # 47

Hajduczenia, Marek ZTE Corp.

Comment Type **T** *Comment Status* **X**

Use of fecOffset[1:0] should be clarified. In other locations, [:] operator is used to bit arrays. In this case it is used on 32 bit unsigned value. Either change this reference into something more representative or explain which bits are taken for comparison and in what order. Definition of fecOffset could be probably a good location for that.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.3** *P* **184** *L* **18** # 33

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
allocating and assigning new port identifiers (LLIDs) and bonding corresponding MACs to the LLIDs.

SuggestedRemedy

allocating and assigning a new port identifier (LLID) and bonding a corresponding MAC to the LLID.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.5.3** *P* **204** *L* **12** *#* 41

Kramer, Glen Teknovus, Inc.

Comment Type **T** *Comment Status* **X**

[Submitted on behalf of Eric Lynskey]
Table 77-1 shows the operation of the confirmDiscovery function. All but one possibility is covered regarding the OLT discovery window. It is not clear what value the function should return if it receives a discovery frame that does not open any discovery window. Although such a frame should not be transmitted, the function should have the ability to handle that set of inputs.

SuggestedRemedy

Add a new row at the bottom of the table: 0, 0, X, X, FALSE. Add a note under the table stating that this set of inputs should not normally be received by the ONU.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.5.3** *P* **204** *L* **25** *#* 29

Feng, Dongning Huawei

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

queueing?

SuggestedRemedy

queuing

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.5.3** *P* **204** *L* **8** *#* 28

Feng, Dongning Huawei

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

functon?

SuggestedRemedy

function

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.5.6** *P* **208** *L* **1** *#* 46

Hajduczenia, Marek ZTE Corp.

Comment Type **T** *Comment Status* **X**

[submitted on behalf of Yang Cheng, with revisions from Marek Hajduczenia]
Transition between CHECK GATE TYPE and WAIT FOR START TIME on ELSE may lead to unexpected behaviour. If grantList contains a single grant, it is removed in WAIT FOR START TIME state and grantList becomes empty. If the retrieved grant is malformed in any way (neither of exit conditions from CHECK GATE TYPE state is met), ELSE exit condition will actuate, transferring state diagram back to WAIT FOR START TIME, where next grant will be again extracted but the grantList is still empty. It is much safer to make the transition from CHECK GATE TYPE on ELSE condition to WAIT FOR GRANT state.

SuggestedRemedy

Per comment

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.3.6.3** *P* **215** *L* **37** *#* 6

Kramer, Glen Teknovus, Inc.

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

unneeded space between "10" and "G" in "10 G registration attempt"

SuggestedRemedy

remove the space

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.4.1** *P* **218** *L* **51** *#* 34

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
This field allows the OLT to relay speed-specific information regarding the discovery window to the different ONUs

SuggestedRemedy

This field allows the OLT to relay speed-specific information regarding the discovery windows to the different ONUs

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.4.2** *P* **219** *L* **52** # 35

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
and if a 1Gb/s discovery window is opened, the ONU may attempt to register in the EPON.

SuggestedRemedy

and if a 1Gb/s discovery window is opened, the ONU may attempt to register in the 10/1G EPON.

Proposed Response *Response Status* **O**

Cl **77** *SC* **77.4.2** *P* **220** *L* **44** # 36

Hajduczenia, Marek ZTE Corp.

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

[submitted on behalf of Runjian Lin]
and if a 10Gb/s discovery window is opened, the ONU may attempt to register in the EPON.

SuggestedRemedy

and if a 10Gb/s discovery window is opened, the ONU may attempt to register in the 10G-EPON.

Proposed Response *Response Status* **O**