Cl **FM**   *SC*   *P* **1**   *L* **27**   # 275

Marris, Arthur   Cadence Design Systems

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

802.3cd is published.

On page 10 the description of what this amendment does is missing.

SuggestedRemedy

Change 802.3cd-201x to 802.3cd-2018 here and on page 10

Also change "IEEE Std 802.3-201x" to "IEEE Std 802.3-2018" throughout the document.

Also on page 10 replace "This amendment includes [complete]" with appropriate text.

Response   *Response Status*   **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **1**   *L* **27**   # 279

Wienckowski, Natalie   General Motors

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

802.3cd has been published

SuggestedRemedy

Change: 802.3cd-201x
To: 802.3cd-2018
Also on P10 L43.

Response   *Response Status*   **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **9**   *L* **5**   # 436

Powell, William   Nokia

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

Current text still refers to 100 Gb/s EPON:
This introduction is not part of IEEE P802.3ca, IEEE Draft Standard for Ethernet.
Amendment: Physical Layer Specifications and Management Parameters for 25 Gb/s, 50 Gb/s, and 100 Gb/s Passive Optical Networks.

SuggestedRemedy

Change to:
This introduction is not part of IEEE P802.3ca, IEEE Draft Standard for Ethernet.
Amendment: Physical Layer Specifications and Management Parameters for 25 Gb/s and 50 Gb/s Passive Optical Networks.

Response   *Response Status*   **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **10**   *L* **31**   # 280

Wienckowski, Natalie   General Motors

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

802.3-2018 has been published

SuggestedRemedy

Change: 802.3-201x
To: 802.3-2018
Also on P10 L37 & P10 L45.

Response   *Response Status*   **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **10**   *L* **38**   # 282

Wienckowski, Natalie   General Motors

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

802.3bt also added Annex 145C.

SuggestedRemedy

Change: Annex 145A, and Annex 145B.
To: Annex 145A, Annex 145B, and Annex 145C.

Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **FM**
SC **FM**

Page 1 of 103
9/17/2019 11:11:41 AM

Cl **FM**	*SC* **FM**	*P* **10**	*L* **49**	# 59

Zimmerman, George   CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

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

802.3cg, 802.3cn, 802.3cq amendments before this are all missing, as well as the description of 802.3ca - It would be REALLY helpful to see what 802.3ca is intending to put into the standard....

SuggestedRemedy

Copy 802.3cg, 802.3cm, 802.3cn, and 802.3cq descriptions from 802.3cn D2p1, and fill in a description for 802.3ca.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update FrontMatter to the latest version available.

Include summary description of IEEE Std 802.3ca™-201x as follows:

Amendment X-This amendment to IEEE Std 802.3-2018 extends the operation of Ethernet Passive Optical Networks (EPONs) to multiple channels of 25 Gb/s providing both symmetric and asymmetric operation for the following data rates (downstream/upstream): 25/10 Gb/s, 25/25 Gb/s, 50/10 Gb/s, 50/25 Gb/s, and 50/50 Gb/s. This amendment specifies the 25 Gb/s EPON Multi-Channel Reconciliation Sublayer (MCRS), 25GBASE-PQ Physical Coding Sublayers (PCSs), Physical Media Attachments (PMAs), and Physical Medium Dependent sublayers (PMDs) that support both symmetric and asymmetric data rates while maintaining backward compatibility with already deployed 10 Gb/s EPON equipment. The EPON operation is defined for distances of at least 20 km, and for a split ratio of at least 1:32.

Cl **FM**	*SC* **FM**	*P* **10**	*L* **50**	# 64

Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **A**   *frontmatter; bucket*

The summary text for IEEE Std 802.3ca-20xx is missing

SuggestedRemedy

Add suitable summary text

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #59

Cl **FM**	*SC* **FM**	*P* **10**	*L* **52**	# 281

Wienckowski, Natalie   General Motors

Comment Type **E**   *Comment Status* **A**   *frontmatter; bucket*

Need to add a description of this ammendment

SuggestedRemedy

Change: This amendment includes [complete]
To: This amendment includes changes to IEEE Std 802.3-2018 and adds Clause 141 through Clause 144 and Annex 142A. This amendment extends the operation of Ethernet Passive
Optical Networks (EPONs) to multiple channels of 25 Gb/s providing both symmetric and asymmetric operation for the following data rates (downstream/upstream): 25/10 Gb/s, 25/25 Gb/s, 50/10 Gb/s, 50/25 Gb/s, and 50/50 Gb/s. This standard specifies the 25 Gb/s EPON Multi-Channel Reconciliation Sublayer (MCRS), 25GBASE-PQ Physical Coding Sublayers (PCSs), Physical Media Attachments (PMAs), and Physical Medium Dependent sublayers (PMDs) that support both symmetric and asymmetric data rates while maintaining complete backward compatibility with
already deployed 10 Gb/s EPON equipment. Backward compatibility with deployed 1G-EPON and ITU-T G.984 GPON is maintained with 25GBASE-PQ for the specific case of 1G-EPON and GPON ONUs using reduced-band (40 nm) lasers. The EPON operation is defined for distances of at least 20 km, and for a split ratio of at least 1:32.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #59

Cl **FM**	*SC* **FM**	*P* **20**	*L* **46**	# 65

Anslow, Pete   Ciena

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

The TOC entries for Annex 31A and Annex 142A are mixed together and they both say (normative).

SuggestedRemedy

Fix the TOC

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **FM**   Page 2 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **FM**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **00**   *SC* **0**   *P*   *L*   # 63
Zimmerman, George   CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco
Comment Type **E**   *Comment Status* **A**

PICS Item PQG2510D2F3 value/comment implies that the requirement is labeling. There is no mention of labeling in the requirement itself (note c of Table 141-15). The requirement is a strict 'shall be able to tolerate without damage'. The PICS says the receiver either shall be able to tolerate, OR shall be labeled that it may be damaged. Also, this PICS item is a duplicate of PQG2510D2F2, because that PICS item includes ALL of the receiver requirements in the Table (and the damage requirement is one), so if the requirement allows labeling, the damage threshold needs to be removed from the table.

As best I can tell, IEEE Std 802.3 2018 handles these damage requirements both ways - either excepting with a label, or simply meeting the requirement.
The dominant way appears to be that the requirement is to tolerate the level specified (Clauses 88, 89, 95, 114, 115, 121, 122, and 124 follow this model, see, e.g., PICS 88.12.4.3, or Table 124-7 and PICS 124.12.4.3)
However, Clauses 60 and 75 specify that the requirement may be met, OR the PMD may be labeled. In this case, the requirement to withstand damage is actually to either meet the level OR label appropriately.

The same comment applies to ALL the PMD receiver damage threshold PICS.

SuggestedRemedy

Depending on the intent (see comment):
Either delete the PICS for the damage threshold.

OR:
 strip the damage threshold out of the table into the normative text, and rewrite the requirement in the normative text (in 141.5.2) as such. See, 60.6.2, 75.4.2, 75.5.2 for example text:
"Either the damage threshold of XXX shall be met, or, the receiver shall be labeled to indicate the maximum optical input power level to which it can be continuously exposed without damage."
(where XXX either specifies the separate table with the damage threshold or just puts the level inline in the text - whichever is more straightforward).

(same remedy applies to other receiver damage threshold PICS).

Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Delete all the PICS for the damage threshold and associated labelling (e.g., PQG2510D2F3)

Cl **00**   *SC* **0**   *P* **0**   *L* **0**   # 466
Thompson, Geoff   GraCaSI S.A./Independent
Comment Type **ER**   *Comment Status* **A**

In all illustrations of the ISO Reference Model, the right end of the Layer dividing line between MAC and Physical Layer is imprecisely placed.

SuggestedRemedy

Place right end of the dashed line precisely at the upper left corner of the MCRS box in all instances.

Response   *Response Status* **C**
ACCEPT.

Cl **00**   *SC* **0**   *P* **0**   *L* **0**   # 467
Thompson, Geoff   GraCaSI S.A./Independent
Comment Type **ER**   *Comment Status* **A**

In all illustrations of the ISO Reference Model, the right end of the Layer dividing line between Data Link and Network Layer is imprecisely placed.

SuggestedRemedy

Place right end of the dashed line precisely at the upper left corner of the MPMC CLIENT box in all instances.

Response   *Response Status* **C**
ACCEPT.

Cl **00**   *SC* **0**   *P* **10**   *L* **49**   # 58
Maguire, Valerie   The Siemon Company
Comment Type **E**   *Comment Status* **A**   *frontmatter; bucket*
Information for Amendment 4: 802.3cg is missing.

SuggestedRemedy

Insert, "IEEE Std 802.3cg™-20xx Amendment 4—This amendment includes changes to IEEE Std 802.3-2018 and adds Clause 146 through Clause 148 and Annex 146A and Annex 146B. This amendment adds 10 Mb/s Physical Layer specifications and management parameters for operation over a single balanced pair of conductors."

Response   *Response Status* **C**
ACCEPT.

See comment #59

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **00**   Page 3 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **0**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **00**   *SC* **0**   *P* **21**   *L* **46**   # 429

Dawe, Piers   Mellanox

Comment Type   **E**   *Comment Status* **A**   *frontmatter; bucket*

This is too out of date: "other IEEE 802.3 amendment projects running in parallel (e.g., IEEE P802.3bj and IEEE P802.3bk)"

SuggestedRemedy

Use an up-to-date example, refer to template maintainer to update if not already done

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #59

Cl **1**   *SC* **1.3**   *P* **22**   *L* **8**   # 430

Dawe, Piers   Mellanox

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

According to https://www.itu.int/itu-t/workprog/wp_item.aspx?isn=13348 , G.652-2016 has removed G.652.A and G.652.C, leaving B and D. Yet several clauses will work with A or C; we should not give an impression that they don't.

SuggestedRemedy

Choose whether you want to include types A and C for the new PMDs. If you do, add a new reference to G.562-2016, leaving G.652-2009 in place. If you don't, it may be simplest to continue with G.652-2009, which remains available.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a new reference to G.652-2016, leaving G.652-2009 in place. This will allow existing clauses to be pointed to the right location. Make all references to G.652 in .3ca dated 2016.

Cl **1**   *SC* **1.3**   *P* **22**   *L* **13**   # 66

Anslow, Pete   Ciena

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

IEEE references in the in-force standard do not have a date at the end of the title

SuggestedRemedy

Delete ", 24 July 2017"

Response   *Response Status* **C**

ACCEPT.

Cl **1**   *SC* **1.3**   *P* **22**   *L* **15**   # 67

Anslow, Pete   Ciena

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

IEC references in the in-force standard have an em dash in front of "Part" with no spaces on either side. This is also true for other "-" separators in the title.

SuggestedRemedy

For the IEC reference being added replace " - " before "Performance", "Part", and "Uncontrolled" with an em dash with no spaces before and after.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **1**   Page 4 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **1.3**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **1**	*SC* **1.4**	*P* **22**	*L* **24**	*#* 68

Anslow, Pete   Ciena

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

The sorting order for definitions in 1.4 is defined at:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#sort
This order has not been correctly applied to the P802.3ca draft.
Also, definitions are usually presented in subclause order in amendments.

SuggestedRemedy

In 1.4, change the editing instructions and definition numbering as follows:
Insert the following new definitions after 1.4.90 "200GXS":
1.4.90a 25/10G-EPON: ...
1.4.90b 25/25G-EPON: ...
Insert the following new definition after 1.4.100 "25GBASE-T":
1.4.100a 25G-EPON: ...
Insert the following new definitions before 1.4.128aa "50GBASE-CR" as inserted by IEEE
Std 802.3cd-2018:
1.4.128aaa 50/10G-EPON: ...
1.4.128aab 50/25G-EPON: ...
1.4.128aac 50/50G-EPON: ...
Insert the following new definition after 1.4.128ah "50 Gb/s Media Independent Interface
(50GMII)" as inserted by IEEE Std 802.3cd-2018:
1.4.128ai 50G-EPON: ...
Insert the following new definitions after 1.4.244 "Energy-Efficient Ethernet (EEE)":
1.4.244a envelope: ...
1.4.244b envelope allocation: ...
1.4.244c envelope descriptor: ...
Insert the following new definitions after 1.4.245 "envelope frame":
1.4.245a envelope header: ...
1.4.245b envelope quantum: ...
1.4.245c EQT: ...
Insert the following new definition after 1.4.277 "Gigabit Media Independent Interface
(GMII)":
1.4.277a GPON: ...
Change 1.4.278 as follows:
1.4.278 Grant: ...
Change 1.4.312 (re-numbered from 1.4.313 due to the deletion of 1.4.294 by IEEE Std
802.3bt-2018) as follows:
1.4.312 Logical Link Identifier (LLID): ...
Insert new definition for "MCRS channel" after 1.4.319 "maximum differential input" (re-
numbered from 1.4.320 due to the deletion of 1.4.294 by IEEE Std 802.3bt-2018) as
follows:
1.4.319a MCRS channel: ...
Insert new definition for "Nx25G-EPON" after 1.4.350 "NRZI" (re-numbered from 1.4.351
due to the deletion of 1.4.294 by IEEE Std 802.3bt-2018) as follows:

Response   *Response Status* **C**

ACCEPT.

Cl **1**	*SC* **1.4.90a**	*P* **22**	*L* **45**	*#* 432

Dawe, Piers   Mellanox

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

the maximum sustained throughput

SuggestedRemedy

a maximum sustained throughput (several times)

Response   *Response Status* **C**

ACCEPT.

Cl **1**	*SC* **1.4.244a**	*P* **23**	*L* **18**	*#* 459

Thompson, Geoff   GraCaSI S.A./Independent

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

I believe that this is the first use of the term "envelope" in this context. Please refer to it as
a "timing envelope" to distinguish it from an envelope frame.

SuggestedRemedy

Change the following text: "In the Multi-Channel Reconciliation Sublayer (MCRS, see
Clause 143), an envelope encapsulates data belonging to a specific LLID being transmitted
on a specific MCRS channel," TO READ: "In the Multi-Channel Reconciliation Sublayer
(MCRS, see Clause 143), a timing envelope encompasses data belonging to a specific
LLID being transmitted on a specific MCRS channel,"

Response   *Response Status* **U**

REJECT.

When selecting the term "envelope", the TF has reviewed the base document to ensure
there was no conflict of terms. In the existing body of IEEE Std 802.3, the word "envelope"
mostly used in two contexts:
1) "envelope frame(s)" - always used as this combination of words
2) Envelope of a signal - always clear from the PMD focus of a given clause.
The TF felt that using the word "envelope" by itself in EPON-related clauses will not be
confusing to readers. However, the term "timing envelope" may be confusing because the
term "envelope" is not related to time, but rather it is related to a number of bits/octets
being transmitted or received.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **1**   Page 5 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **1.4.244a**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **1**   *SC* **1.4.244b**   *P* **23**   *L* **22**   # 460

Thompson, Geoff   GraCaSI S.A./Independent

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

Per the previous comment, the general term "envelope" is already used elsewhere in 802.3. This will be a cause for confusion.

SuggestedRemedy

Please refer to the PON use at this level as a "timing envelope" to distinguish it from other uses of the term envelope. The change is needed here and many places elsewhere throughout your draft. Please do a global search and examine each use of the term "envelope" for possible modification.

Response   *Response Status* **U**

REJECT.

There are no other "envelopes" used in the standard today, so there is no confusion with other terms. The term itself is defined as a term (1.4.244a) and used consistently throughout the draft.

See comment #459.

Cl **1**   *SC* **1.4.244b**   *P* **23**   *L* **23**   # 28

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "A single GATE MPCPDU can carry up" to "A single GATE MPCPDU may carry up"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here.

Cl **1**   *SC* **1.4.244c**   *P* **23**   *L* **26**   # 461

Thompson, Geoff   GraCaSI S.A./Independent

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

The parameters to not "describe" the timing envelope, they are its defining parameters.

SuggestedRemedy

Change "describe" to "define".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #433

Cl **1**   *SC* **1.4.244c**   *P* **23**   *L* **26**   # 433

Dawe, Piers   Mellanox

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

I don't know what you mean by "tuple". As you don't bother to use the word anywhere else in this draft, and it doesn't appear in Section 1 with its 507 definitions, it can't be necessary.

SuggestedRemedy

Change to "sequence".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Both tuple and sequence are wrong here as the ordered set assumes a set of homogenous elements. There is nothing ordered in envelope descriptor.

1.4.244c Envelope descriptor: A set of parameters consisting of LLID, StartTime, and EnvLength. An envelope descriptor defines a specific envelope pending transmission. Envelope descriptors are generated by the local MPCP sublayer and are passed to MCRS at the appropriate time to start the envelope transmission.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **1**
SC **1.4.244c**

Page 6 of 103
9/17/2019 11:11:41 AM

Cl **1**   *SC* **1.4.244d**   *P* **23**   *L* **30**   # 462

Thompson, Geoff   GraCaSI S.A./Independent

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

The way this currently reads, every envelope and every frame gets this marker at which point it ceases to be a "special marker". The actual meaning and its distinctness need to be described.

SuggestedRemedy

Rewrite the definition text to actually be a distinguishing term that can be understood.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change definition to read: An MCRS-specific marker that is inserted at the beginning of every envelope (Envelope Start Header) and in place of every frame preamble (Envelope Continuation Header). The envelope header includes fields that identify the LLID that sourced the encapsulated data and the length of the data (in units of EQ). Envelope headers also include CRC8 field used to detect bit errors.

Cl **1**   *SC* **1.4.245a**   *P* **23**   *L* **33**   # 463

Thompson, Geoff   GraCaSI S.A./Independent

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

This is very confusing. As far as I know, there is no quanta identified within the MAC sub-layer and above that is any finer grained than a MAC Frame. The text implies that the quantification (and identification thereof) exists in the higher layers. This is not true.

SuggestedRemedy

Rewrite so it is more obvious that the quantization only exists within the RS and below.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a fair observation. MAC and MAC Client are not aware of this quantization. The EPON-specific MAC Control and MAC Control Client (out-of-scope for 802.3) are aware of it, just like in previous EPON generations, the MAC Control and MAC Control Client were aware of quantization unit TQ (time quantum). Change the definition as shown below:

1.4.245a Envelope Quantum: A unit of information volume. Each envelope quantum represents 64 bits of data plus the layer-specific encoding. Thus, at the MAC >>>Control<<< sublayer and above, an envelope quantum is equal to 64 bits. Within the MCRS, an envelope quantum contains 72 bits (i.e., 64 bits of data and 8 bits of control). Within PCS, after the 64B/66B encoding, an envelope quantum contains 66 bits.

Cl **1**   *SC* **1.4.245a**   *P* **23**   *L* **35**   # 112

Remein, Duane   Futurewei Technologies, Inc.

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

While the following statement is true for a short time it is not always true (after 267B/256B encoding and EQ would be 64.25 bits) "Within PCS, after the 64B/66B encoding, an envelope quantum contains 66 bits." The stand-a-alone term "EQ" is only used 2x in Cl 142 (pg/line 107/34, 124/17). In both cases the term refers to an observable 72 bit block from the xMII.

SuggestedRemedy

Remove the statement "Within PCS, after the 64B/66B encoding, an envelope quantum contains 66 bits."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

If modified as proposed, the definition would be incomplete, since it mentions MAC and higher sublayers, MCRS, but would ignore PCS. It is better to extend the definition as follows: "Within PCS, after the 64B/66B encoding, an envelope quantum contains 66 bits, and after 256B/257B encoding, four envelope quanta are packed into a single 257-bit block."

Cl **1**   *SC* **1.4.245b**   *P* **23**   *L* **38**   # 465

Thompson, Geoff   GraCaSI S.A./Independent

Comment Type **E**   *Comment Status* **R**

It seems like a really bad idea to make this term speed dependent so that the term will not be usable for a like instance at any other speed.

SuggestedRemedy

Change to bit times.

Response   *Response Status* **C**

REJECT.

For the OLT to be able to schedule a mix of 25G and 10G upstream transmissions (for the 25G/25G and 25G/10G coexistence mode), the scheduler needs to have some common reference unit. The EQT was specifically introduced to not depend of bit times. A transmission time of 1 EQ in downstream direction is exactly 1 EQT. In the upstream direction, for ONUs transmitting at 25Gb/s, the transmission time of 1 EQ is also 1 EQT. But for ONUs transmitting at 10Gb/s, the transmission time of 1 EQ is 2.5 EQTs. In other words, EQT is a fixed interval, regardless of the line rate or bit times. It is correct that in some future EPON projects (which don't seem to end), the value of EQT may be different. We expect a future task force to deal with this by making this definition clause- or PON architecture-specific.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **1**   Page 7 of 103

COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **1.4.245b**   9/17/2019 11:11:41 AM

SORT ORDER: Clause, Subclause, page, line

Cl **1** *SC* **1.4.278** *P* **22** *L* **31** # 431

Dawe, Piers   Mellanox

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

Contradictory statements about one or multiple upstream bursts.
Change:
In Clause 64 ... LLID. Each grant results in
one or multiple upstream bursts transmitted by the ONU. In Clause 144, a grant includes
envelope allocations for multiple LLIDs. The OLT conveys a grant to the ONU using one or
multiple GATE MPCPDUs, all having the same StartTime values. There is a one-to-one
correspondence between ...

SuggestedRemedy

to:
In Clause 64 ... LLID; each grant results in
one or multiple upstream bursts transmitted by the ONU. In Clause 144, a grant includes
envelope allocations for multiple LLIDs, the OLT conveys a grant to the ONU using one or
multiple GATE MPCPDUs, all having the same StartTime values, and there is a one-to-one
correspondence between ...

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The proposed changes would make the definition even more confusing. Use the following
updated definition:

1.4.278 Grant: Within P2MP protocols, a permission to transmit at a specific time, for a
specific duration. Grants are issued by the OLT (master) to ONUs (slaves) by means of
GATE messages. In Clause 64 and Clause 77, a GATE MPCPDU contains one or multiple
grants issued to a single LLID, with each grant resulting in one or multiple upstream bursts
transmitted by the ONU. In Clause 144, a grant includes envelope allocations for multiple
LLIDs and there is a one-to-one correspondence between the grants issued to an ONU and
upstream bursts transmitted by that ONU.

Cl **1** *SC* **1.5** *P* **23** *L* **51** # 69

Anslow, Pete   Ciena

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

"CDR" is already present in 1.5 Abbreviations in the base standard.

SuggestedRemedy

Remove "CDR clock data recovery" from the list of new abbreviations

Response   *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **23** *L* **52** # 306

Lynskey, Eric   Broadcom

Comment Type **E** *Comment Status* **A** *bucket, CDR*

CDR is already present in IEEE 802.3-2018.

SuggestedRemedy

Remove.

Response   *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.5** *P* **23** *L* **52** # 434

Dawe, Piers   Mellanox

Comment Type **E** *Comment Status* **A** *bucket, CDR*

CDR doesn't stand for clock data recovery

SuggestedRemedy

Change to clock and data recovery

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #306

Cl **1** *SC* **1.5** *P* **23** *L* **54** # 70

Anslow, Pete   Ciena

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

New abbreviations are usually presented in alphabetical order

SuggestedRemedy

Sort the new abbreviations in to alphabetical order

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general *Cl* **1** Page 8 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **1.5** 9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **1**   *SC* **1.5**   *P* **24**   *L* **9**   # 260

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

Add abbreviation MCRS

SuggestedRemedy

MCRS - multi channel reconciliation sublayer

Response   *Response Status* **C**

ACCEPT.

Cl **1**   *SC* **1.5**   *P* **24**   *L* **10**   # 71

Anslow, Pete   Ciena

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

According to:
http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html
"Physical Layer" is "always capped"

SuggestedRemedy

Change:
"PLID physical layer ID" to:
"PLID Physical Layer ID"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment + change capitalization on page 203/11

Cl **30**   *SC* **30.3.5.1.4**   *P* **26**   *L* **38**   # 327

Laubach, Mark   Broadcom

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

The ";" dropped off the end of the line during original editing. This is needed to be consistent with Clause 30 format.

SuggestedRemedy

Add the ";" to the end of the line.

Response   *Response Status* **C**

ACCEPT.

Cl **30**   *SC* **30.5.1.1.2**   *P* **27**   *L* **2**   # 392

Dawe, Piers   Mellanox

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

Multiple aMAUTypes with the same description

SuggestedRemedy

Add words to distinguish them

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Apply the following changes to MAU description, using 25GBASE-PQG as an example:

25GBASE-PQG-D2   One single mode fiber, 1x25G continuous transmission / 1x25G burst mode reception, medium power class, as specified in Clause 141
25GBASE-PQG-D3   One single mode fiber, 1x25G continuous transmission / 1x25G burst mode reception, high power class, as specified in Clause 141
25GBASE-PQG-U2   One single mode fiber, 1x25G burst mode transmission / 1x25G continuous reception, medium power class, as specified in Clause 141
25GBASE-PQG-U3   One single mode fiber, 1x25G burst mode transmission / 1x25G continuous reception, high power class, as specified in Clause 141

Cl **31A**   *SC* **31A**   *P* **246**   *L* **16**   # 109

Anslow, Pete   Ciena

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

The Value/Comment entry for PAUSE has been in place since the 1998 version of IEEE Std 802.3 without change.
The Value/Comment entry for GATE has been in place since the 2005 version of IEEE Std 802.3 without change.
There is no special feature of the P802.3ca draft that requires these changes to be made.

SuggestedRemedy

remove the changes shown to these rows of the table.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Retain changes to PAUSE and GATE (missing "s" at the end of verb), remove unchanged rows for REPORT, REGISTER_REQ, REGISTER, and REGISTER_ACK. Update the editorial instruction by adding "(unchanged rows are not shown)" at the end.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **31A**
SC **31A**

Page 9 of 103
9/17/2019 11:11:41 AM

Cl **45** *SC* **45.2.1**   *P* **29** *L* **20** # 72

Anslow, Pete   Ciena

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

The two underlined ellipsis characters in the middle of the table should not be underlined.
The rows for registers 3.80, 3.81, and 3.82 should be in Table 45-176 not Table 45-3

SuggestedRemedy

Delete the row with the two underlined ellipsis characters in the middle of the table.
Move the rows for registers 3.80, 3.81, and 3.82 to Table 45-176
Change the bottom ruling of Table 45-3 to the table default.

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1**   *P* **29** *L* **20** # 113

Remein, Duane   Futurewei Technologies, Inc.

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

Ellipses need not be shown as added in Table 45-3 7th row.

SuggestedRemedy

remove underlining on ellipses.

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1**   *P* **29** *L* **29** # 60

Zimmerman, George   CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

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

Editing instruction needs to include 802.3cg which also modified Table 45-3.

SuggestedRemedy

change "as modified by IEEE Std 802.3cb-2018 and IEEE Std 802.3cd-2018" to "as
modified by IEEE Std 802.3cb-2018, IEE Std 802.3cd, and IEEE 802.3cg-201x)

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.23a**   *P* **30** *L* **5** # 75

Anslow, Pete   Ciena

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

The name in the title of 45.2.1.23a.2 is Downstream differential encoding, so this is what
should be in the "Name" entry for bit 1.29.15 in Table 45-26a

SuggestedRemedy

In Table 45-26a:
In the Name cell for bit 1.29.15, change "DS_Diff_Enc" to " Downstream differential
encoding"
In the Description cell for bit 1.29.15, change " Downstream differential encoding" to:
"1 = Downstream differential encoding enabled
0 = Downstream differential encoding disabled"

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.23a.1**   *P* **29** *L* **37** # 114

Remein, Duane   Futurewei Technologies, Inc.

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

Bit definitions are typically ordered high to low (at least that is how they are defined in
45.2.1.1 - …3).

SuggestedRemedy

Swap sub-clauses so that 45.2.1.23a.2 Downstream Differential Encoding (1.29.15) comes
before 45.2.1.23a.1 PMA/PMD type selection (1.29.5:0).

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.23a.1**   *P* **29** *L* **37** # 73

Anslow, Pete   Ciena

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

The subclauses either side of 45.2.1.23a define the bits in order of largest to smallest.

SuggestedRemedy

Swap the order of the definitions so that bit 1.29.15 is defined in 45.2.1.23a.1 and bits
1.29.5:0 in 45.2.1.23a.2

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general *Cl* **45** Page 10 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **45.2.1.23a.1** 9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45** *SC* **45.2.1.23a.1**   *P* **29**   *L* **41**   # 16

Hajduczenia, Marek   Charter Communications

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

New "shall" statements were added, but updates to PICS are missing

SuggestedRemedy

Updates PICs per hajduczenia_3ca_1_0719.pdf

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.23a.2**   *P* **29**   *L* **45**   # 74

Anslow, Pete   Ciena

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

In the title of 45.2.1.23a.2 "Downstream Differential Encoding" should be "Downstream differential encoding" (lower case d and e)

SuggestedRemedy

In the title of 45.2.1.23a.2 change: "Downstream Differential Encoding" to: "Downstream differential encoding"

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.23a.2**   *P* **29**   *L* **50**   # 115

Remein, Duane   Futurewei Technologies, Inc.

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

"TX PMA" and "RX PMA" are poorly defined.

SuggestedRemedy

Change
"TX PMA" to "transmit PMA" and
"RX PMA" to "receive PMA"

Response   *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.134a**   *P* **31**   *L* **10**   # 393

Dawe, Piers   Mellanox

Comment Type **E** *Comment Status* **R**

Table title wraps too short

SuggestedRemedy

Make the text box for table title wider

Response   *Response Status* **C**

REJECT.

When attempting to fit the whole title in a single line, 2-3 characters flow into line 2. Title was forced to be this way on purpose.

Cl **45** *SC* **45.2.1.134a**   *P* **31**   *L* **15**   # 76

Anslow, Pete   Ciena

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

Table 45-103a contains PMA/PMD "ability" bits. All of the other registers in Clause 45 containing PMA/PMD "ability" bits use the text:
"1 = PMA/PMD is able to perform XXGBASE-XXX
0 = PMA/PMD is not able to perform XXGBASE-XXX"
The text in Table 45-103a for the PMA/PMD "ability" bits should be consistent with that used for the other PMA/PMD "ability" bits in Clause 45
These bits are not a compliance statement, they are used to indicate whether a device is able to perform as a particular PMA/PMD type.

SuggestedRemedy

In Table 45-103a change the text in the Description column for all PMA/PMD "ability" bits to the form:
"1 = PMA/PMD is able to perform XXGBASE-XXX-XX
0 = PMA/PMD is not able to perform XXGBASE-XXX-XX"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **45**   Page 11 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **45.2.1.134a**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45**   *SC* **45.2.1.134a**   *P* **31**   *L* **54**   # 77

Anslow, Pete   Ciena

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

When tables split across pages, the bottom ruling of the table on the first page should be "very thin"

SuggestedRemedy

Make the bottom ruling "very thin" for:
Table 45-103a at the foot of page 31 and page 32
Table 45-217a at the foot of page 43
Table 141-7 at the foot of page 59
Table 142-5 at the foot of page 118 and page 119
Table 144-4 at the foot of page 201

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Cl **45**   *SC* **45.2.1.134a.9**   *P* **34**   *L* **16**   # 1

Hajduczenia, Marek   Charter Communications

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

Make sure that the PMD name is not broken across lines.

SuggestedRemedy

Applies to 45.2.1.134a.9, 45.2.1.134a.10, 45.2.1.134a.11, 45.2.1.134a.12, 45.2.1.134a.13, 45.2.1.134a.14, 45.2.1.134a.15, 45.2.1.134a.16, 45.2.1.134a.23,45.2.1.134a.24, 45.2.1.134a.25, 45.2.1.134a.26, 45.2.1.134a.27, 45.2.1.134a.28, 45.2.1.134a.29, 45.2.1.134a.30, 45.2.1.134a.31, 45.2.1.134a.32

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.1.134a.9**   *P* **34**   *L* **16**   # 116

Remein, Duane   Futurewei Technologies, Inc.

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

PMA/PMD name crosses the line.

SuggestedRemedy

Change the character format so that the line is not broken by the PMD name at the following locations (pg/line): 34/16, 34/22, 3428, 34/34, 34/40, 34/46, 34/52, 35/4, 35/46, 35/52, 36/4, 36/10, 36/16, 36/22, 36/28, 36/34, 36/40, & 36/46. Editors licenses to fix any others found.

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.1.18aa**   *P* **33**   *L* **36**   # 472

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **D**   *wrong-ballot*

Misspelling

SuggestedRemedy

Change: "abilitiy", To: "ability"

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

No such spelling "abilitiy" found in the draft. Given that 45.2.1.18 does not exist in the draft - is this a comment against P803.2ca?

Cl **45**   *SC* **45.2.1.18ab**   *P* **33**   *L* **43**   # 473

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **D**   *wrong-ballot*

Misspelling

SuggestedRemedy

Change: "abilitiy", To: "ability"

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

No such spelling "abilitiy" found in the draft. Given that 45.2.1.18 does not exist in the draft - is this a comment against P803.2ca?

Cl **45**   *SC* **45.2.3**   *P* **38**   *L* **12**   # 78

Anslow, Pete   Ciena

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

In the new names for registers 3.76, 3.77 and 3.78, 3.79 in Table 45-176, there shouldn't be a comma in "PR10G-EPON, and Nx25GEPON"
This is shown correctly in 45.2.3.41 and 45.2.3.42

SuggestedRemedy

In the new names for registers 3.76, 3.77 and 3.78, 3.79 in Table 45-176, delete the comma in "PR10G-EPON, and Nx25GEPON" (2 instances)

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **45**   Page 12 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **45.2.3**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45**	*SC* **45.2.3**	*P* **38**	*L* **17**	# 79

Anslow, Pete   Ciena

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

The Nx25G-EPON synchronization pattern registers in 45.2.3.45a are registers 3.83 through 3.134

SuggestedRemedy

In table 45-176 change "3.83 through 3.135" to "3.83 through 3.134"
In the reserved row change "3.136 through 3.199" to "3.135 through 3.199"

Response   *Response Status* **C**

ACCEPT.

Cl **45**	*SC* **45.2.3**	*P* **39**	*L* **3**	# 61

Zimmerman, George   CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

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

Editing instruction needs to include 802.3cg which also modified Table 45-176.

SuggestedRemedy

change "as modified by IEEE Std 802.3cb-2018 and IEEE Std 802.3cd-2018" to "as modified by IEEE Std 802.3cb-2018, IEE Std 802.3cd, and IEEE 802.3cg-201x)

Response   *Response Status* **C**

ACCEPT.

Cl **45**	*SC* **45.2.3.6.1**	*P* **39**	*L* **40**	# 117

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **TR**   *Comment Status* **A**   *45.2.3.6.1*

Register bits 3.9.0 to 3.9.7 appear to all advertise PCS type abilities.

SuggestedRemedy

Change:
"bits 3.8.9, 3.8.7:0, and 3.9.15:0." to
"bits 3.8.9, 3.8.7:0, and 3.9.17:0."
Note the "1" in 3.9.1x is in strike-out text.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #80

Cl **45**	*SC* **45.2.3.6.1**	*P* **39**	*L* **41**	# 80

Anslow, Pete   Ciena

Comment Type **T**   *Comment Status* **A**   *45.2.3.6.1*

The text as modified: "The PCS type abilities of the PCS are advertised in bits 3.8.9, 3.8.7:0, and 3.9.5:0. A PCS shall ignore writes to the PCS type selection bits that select PCS types it has not advertised in the PCS status 2 register." is not correct. It should read: "The PCS type abilities of the PCS are advertised in bits 3.8.9:0, and 3.9.7:0. A PCS shall ignore writes to the PCS type selection bits that select PCS types it has not advertised in the PCS status 2 register or the PCS status 3 register."

SuggestedRemedy

Change the second and third sentence of 45.2.3.6.1 to: "The PCS type abilities of the PCS are advertised in bits 3.8.9<u>:0</u><s>, 3.8.7:0,</s> and 3.9.<s>1</s><u>7</u>:0. A PCS shall ignore writes to the PCS type selection bits that select PCS types it has not advertised in the PCS status 2 register<u> or the PCS status 3 register</u>."
Where:
 <u> and </u> are the start and end of underline font
 <s> and </s> are the start and end of strikethrough font

Response   *Response Status* **C**

ACCEPT.

Cl **45**	*SC* **45.2.3.8**	*P* **40**	*L* **8**	# 81

Anslow, Pete   Ciena

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

In Table 45-182, row for bit 3.9.7, "apable" should be "capable"

SuggestedRemedy

In Table 45-182, row for bit 3.9.7, change "apable" to "capable"

Response   *Response Status* **C**

ACCEPT.

Cl **45**	*SC* **45.2.3.43**	*P* **41**	*L* **39**	# 84

Anslow, Pete   Ciena

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

"update" is not a valid editing instruction.

SuggestedRemedy

In the editing instruction, replace "Update" with "Change"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **45**   Page 13 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **45.2.3.43**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45**   *SC* **45.2.3.43**   *P* **41**   *L* **41**   # 85

Anslow, Pete   Ciena

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

One of the changes shown in 45.2.3.43 to the name of register 3.80 (timer changed to interval) is not reflected in Table 45-176.
Note that another comment proposes to move the row in Table 45-3 for this register to Table 45-176 where it belongs.

SuggestedRemedy

After moving the row for register 3.80 from Table 45-3 to Table 45-176, reflect the change from "timer" to "interval" in the register name using underline and strikethrough.

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.43**   *P* **41**   *L* **44**   # 62

Zimmerman, George   CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

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

The font of "and" and "and Nx25G EPON" is smaller than the rest of the text.

SuggestedRemedy

fix font of "and", and "an Nx25G EPON"

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.43**   *P* **41**   *L* **44**   # 492

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **A**   *post-deadline; bucket*

Inconsistent font size.

SuggestedRemedy

Make fonts the same size.

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.43**   *P* **42**   *L* **2**   # 86

Anslow, Pete   Ciena

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

"76.3.3.4" should be in forest green. "142.3.5.6" should be a cross-reference. Equivalent issues in 45.2.3.44.1 and 45.2.3.45

SuggestedRemedy

Convert to text and apply character tag "External" to:
"76.3.3.4" in 45.2.3.43
"76.3.3.4" in 45.2.3.44.1
"76.3.3.4" in 45.2.3.45
Make a cross-reference:
"142.3.5.6" in 45.2.3.43
"142.3.5.2" in 45.2.3.44.1
"142.3.5.6" in 45.2.3.45

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.43**   *P* **42**   *L* **5**   # 328

Laubach, Mark   Broadcom

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

underline of word stopped short

SuggestedRemedy

extend the underline to include the last letter in "interval"

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.44**   *P* **42**   *L* **25**   # 87

Anslow, Pete   Ciena

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

", and Nx25G EPON" has been inserted after "BER" in the first sentence of 45.2.3.44 instead of before.

SuggestedRemedy

Move the insertion of ", and Nx25G EPON" before "BER" in the first sentence of 45.2.3.44 so that it reads "… 10/1GBASE-PRX, and Nx25G EPON BER monitor …"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **45**
SC **45.2.3.44**

Page 14 of 103
9/17/2019 11:11:41 AM

Cl **45**   *SC* **45.2.3.44.1**   *P* **42**   *L* **49**   # 88

Anslow, Pete   Ciena

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

In the first sentence of 45.2.3.44.1, there is a spurious " BER" after "10/1GBASE-PRX"

SuggestedRemedy

In the first sentence of 45.2.3.44.1, delete " BER" after "10/1GBASE-PRX"

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.44.2**   *P* **43**   *L* **4**   # 89

Anslow, Pete   Ciena

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

In the first sentence of 45.2.3.44.2, there is a spurious " BER" after "10/1GBASE-PRX" and " PCS" is missing after the insertion of ", and Nx25G EPON"

SuggestedRemedy

In the first sentence of 45.2.3.44.1, delete " BER" after "10/1GBASE-PRX" and add " PCS" after the insertion of ", and Nx25G EPON"

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.45a**   *P* **43**   *L* **43**   # 307

Lynskey, Eric   Broadcom

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

Table 45-217a holds the 257-bit sync pattern values. Throughout Clause 45, there are a variety of ways that data is stored in a register when it is greater than 16-bits. Sometimes the lower bytes are stored in lower numbered registers (Table 45-242), and sometimes the opposite is true (Table 45-202). The order of the bytes should be stated in this table.

SuggestedRemedy

For the SP1 pattern row, change to "The lower 256 bits of SP1. Bit 0 is stored in 3.84.0, and bit 255 is stored in 3.99.15." Similar for SP2 and SP3 patterns. If this doesn't fit well in the table, then move to the text descriptions that follow the table.

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.45a**   *P* **43**   *L* **47**   # 118

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **TR**   *Comment Status* **A**   *Table 45-217a*

Table 217a is missing a definition for register bits 3.83.6:15

SuggestedRemedy

Add as first row of table:
3.83.15:6 | Reserved | Value always 0 | RO

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.45a**   *P* **43**   *L* **47**   # 448

Nicholl, Shawn   Xilinx

Comment Type **E**   *Comment Status* **R**

SP1, SP2, etc. are already found throughout 802.3-2018 and are used in the context of "Skew Point". Consider a more unique abbreviation for "synchronization pattern". Unique abbreviations aide the general readability and search-ability of the standard.

SuggestedRemedy

Replace SP1 with SPTN1 throughout the document. Same for SP2, SP3, etc. SPTNx is merely a suggestion, any other unique acronymn would work, too.

Response   *Response Status* **C**

REJECT.

Terms are defined consistently. There are many other examples of overlaping acronyms that do not cause confusion, when read within the right context.

Also, please note that SP1, SP2, and SP3 are already used to represent two very different things: Service Primitives in C73 and Skew Points in C80 and 83

Cl **45**   *SC* **45.2.3.45a**   *P* **43**   *L* **47**   # 119

Remein, Duane   Futurewei Technologies, Inc.

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

Register bits in Cl 45 tables are typically listed from high bit to low bit and low register to high register.

SuggestedRemedy

Reorder row for register bits 3.83.5 to 3.83.0 in Table 45-217a in descending bit order.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **45**   Page 15 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **45.2.3.45a**   9/17/2019 11:11:41 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45**   *SC* **45.2.3.45a**   *P* **43**   *L* **47**   # 90

Anslow, Pete   Ciena

Comment Type **ER**   *Comment Status* **A**   *Table 45-217a*

The table defining bit allocations in Clause 45 always have bit 15 at the top and descending
bit numbers below.
Ranges of bits within a register are shown as x.x.a:b where a is higher than b
bits within a register that are not allocated are shown as reserved.

SuggestedRemedy

Change the order of rows in Table 45-217a and the bit designations as follows:
3.83.15:6 | Reserved | Value always 0 | RO
3.83.5
3.83.4
3.83.3
3.83.2
3.83.1
3.83.0
3.99.15 through 3.84.0
3.100.15:0
3.116.15 through 3.101.0
3.117.15:0
3.133.15 through 3.118.0
3.134.15:0

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.3.45a**   *P* **44**   *L* **10**   # 120

Remein, Duane   Futurewei Technologies, Inc.

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

Backwards the bits are in "3.1xx.0:15"

SuggestedRemedy

In 45.2.3.45a.x Change:
3.100.0:15 to 3.100.15:0   (4x total)
3.117.0:15 to 3.117.15:0 (4x total)
3.134.0:15 to 3.134.15:0 (3x total)

Response   *Response Status* **C**

ACCEPT.

Hardly a TR comment material

Cl **45**   *SC* **45.2.3.80.2**   *P* **49**   *L* **31**   # 474

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **D**   *wrong-ballot*

Duplicate text

SuggestedRemedy

Change: "is detecting is detecting", To: "is detecting"

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Issue not located. Given that 45.2.3.80.2 does not exist in the draft - is this a comment
against P803.2ca?

Cl **45**   *SC* **45.2.3.80.4**   *P* **49**   *L* **47**   # 475

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **D**   *wrong-ballot*

Description of non-latched source is wrong.

SuggestedRemedy

Change: "...PCS high BER status bit (3.2324.9)."
To: "...PCS high RFER status bit (3.2324.9)."

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Issue not located. Given that 45.2.3.80.4 does not exist in the draft - is this a comment
against P803.2ca?

Cl **45**   *SC* **45.2.3.8aa**   *P* **40**   *L* **25**   # 82

Anslow, Pete   Ciena

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

The heading numbering for 45.2.3.8aa through 45.2.3.11ad should be 45.2.3.8.aa through
45.2.3.8.ad as per the editing instruction.

SuggestedRemedy

Change the heading numbering for 45.2.3.8aa through 45.2.3.11ad to 45.2.3.8.aa through
45.2.3.8.ad as per the editing instruction.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **45**   Page 16 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **45.2.3.8aa**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **45**   *SC* **45.2.3.8aa**   *P* **40**   *L* **28**   # 83

Anslow, Pete   Ciena

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

At the end of the paragraph "the 25GBASE-PQ PCS type" should be "the 25/25GBASE-PQ PCS type"

SuggestedRemedy

At the end of the paragraph change "the 25GBASE-PQ PCS type" to "the 25/25GBASE-PQ PCS type"

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1**   *P* **47**   *L* **1**   # 91

Anslow, Pete   Ciena

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

Figures in 802.3 do not have a border round them.

SuggestedRemedy

Remove the border from Figure 56-5a

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1**   *P* **47**   *L* **1**   # 395

Dawe, Piers   Mellanox

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

Per IEEE Standards Style Manual, there should be no borders around the graphic. And, it doesn't match figs 56-2 to 5.

SuggestedRemedy

Remove the black box round the figure and its title.

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1**   *P* **47**   *L* **3**   # 400

Dawe, Piers   Mellanox

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

Rogue capitals

SuggestedRemedy

Unless these are proper nouns, change "OLT Control Plane" and "OLT Data Plane" to "OLT control plane" and "OLT data plane" and similarly for ONU. Several occurrences.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #399

Cl **56**   *SC* **56.1**   *P* **47**   *L* **3**   # 399

Dawe, Piers   Mellanox

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

Undefined terms "Control Plane", "Data Plane"

SuggestedRemedy

Explain

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change all instances of "Control Plane" to
"MAC Control Clients", and "Data Plane" to "MAC Clients"

Cl **56**   *SC* **56.1.2**   *P* **46**   *L* **32**   # 394

Dawe, Piers   Mellanox

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

PON with the nominal MAC data

SuggestedRemedy

PON with a nominal MAC data (several places)

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **56**
SC **56.1.2**

Page 17 of 103
9/17/2019 11:11:42 AM

Cl **56**   *SC* **56.1.2**   *P* **46**   *L* **38**   # 378

Dawe, Piers   Mellanox

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

This PHY sensibly keeps the 25.78125 GBd line rate but uses stronger FEC with 20% (Fig 142-5) or 1-1/0.848 = 17.9% (142.2.4.2) overhead. Even after reclaiming about 3% by 257b recoding, that's around 21.4 Gb/s MAC rate, which is too far from 25 to say "nominal MAC data rate of 25 Gb/s".

SuggestedRemedy

Giving the PHY types names with 25G in them is fair, because that represents the technology used - but this part of the draft text is misleading.

In this paragraph, change "25 Gb/s" to "21.4 Gb/s" and "50 Gb/2" to "42.8 Gb/s".

Response   *Response Status* **U**

REJECT.

The nominal (how quickly MAC transmits bits, i.e., what the resulting bit time is) MAC rate is correct in here, the effective MAC rate (how many bits it can effectively transmit within a second) is lower and affected by FEC overhead, just like any other PHY that uses FEC and PCS encoding. MAC does not always transmit data, but when it does, it transmits it at 25Gb/s

---

Cl **56**   *SC* **56.1.2**   *P* **46**   *L* **52**   # 396

Dawe, Piers   Mellanox

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

channel - has multiple meanings already - you are introducing a new thing

SuggestedRemedy

Change "channel" to "wavelength" (or maybe "MCRS channel", several times. "PCS and PMA channel" can also be changed to "wavelength".

Response   *Response Status* **C**

REJECT.

"Channel" is not equivalent to "Wavelength". Channels are defined in MCRS, PCS, and PMA, which are not aware of wavelengths. There are also several sets of wavelength defined for different coexistence classes, and each channel may map to a different wavelength in a different coexistence class (see 141.2.3). It is possible in some future project to map multiple channels into a single wavelength. The term "channel" is fundamental to the specifications in Clause 143. It is very precisely defined and that definition is confined to .3ca only. The term "wavelength" is also used multiple times in our draft in its original meaning.

Cl **56**   *SC* **56.1.2**   *P* **47**   *L* **1**   # 283

Wienckowski, Natalie   General Motors

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

Why is there a box around Figure 56-5a? There is not a box around the other Clause 56 Figures and this is not they style found in other Clauses.

SuggestedRemedy

Remove box around Figure 56-5a.

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1.2**   *P* **47**   *L* **19**   # 397

Dawe, Piers   Mellanox

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

"PCS channel" is new, may need more introduction.

SuggestedRemedy

Are there two independent, parallel PCSs or are they linked (how)?

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "PCS channel" to "channel"
Change "PCS and PMA channel" to "PMA channel"

Cl **56**   *SC* **56.1.2**   *P* **47**   *L* **52**   # 255

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

The architectural diagram has a border box around it. Not consistent with other Clause 56 diagrams inIEEE 802.3

SuggestedRemedy

delete border box

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **56**   Page 18 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **56.1.2**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **56**   *SC* **56.1.2**   *P* **47**   *L* **52**   # 256

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

Title of diagram not consistent with other similar diagrams in Clause 56 of 802.3
See also Fig 141-1, p56
See also Fig 142-1, p.104
See also Fig 143-17, p 173
See also Fig 144-2 P 182

SuggestedRemedy

rename title of diagram - Figure 56–4—Architectural positioning of EFM:
P2MP n X 25G–EPON architecture

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change title to read Figure 56–5a—Architectural positioning of EFM:
P2MP Nx25G–EPON architecture

Cl **56**   *SC* **56.1.2**   *P* **47**   *L* **52**   # 257

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

Comment Type   **E**   *Comment Status* **R**

Diagram not drawn in consistent manner with other similar diagrams in Clause 56.
Example- the vertial 25GMII text inside the diagram- as well as how the entire MII interface is drawn
See also Fig 141-1, p56
See also Fig 142-1, p.104
See also Fig 143-17, p 173
See also Fig 144-2 P 182

SuggestedRemedy

redraw figure to be consistent with 56-1, 56-2, 56-3, 56-4.

Response   *Response Status* **C**

REJECT.

Diagram is consistent with style in other .3ca clauses.

Cl **56**   *SC* **56.1.3**   *P* **48**   *L* **38**   # 92

Anslow, Pete   Ciena

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

Editing instructions do not include the project name and not all of the rows of the table are shown.

SuggestedRemedy

Change editing instruction to: "Insert new PMD types at the end of Table 56-1 (below 10GPASS-XR-U entry), as follows (unchanged rows not shown):

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1.3**   *P* **48**   *L* **46**   # 93

Anslow, Pete   Ciena

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

Only one body row of Table 56-1 (containing ellipsis) is shown before the page break.
As the editing instruction is "Insert", the inserted rows should not be underlined.

SuggestedRemedy

Move the first row of Table 56-1 on to the next page and remove the underlining from the inserted rows.

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1.3**   *P* **50**   *L* **21**   # 94

Anslow, Pete   Ciena

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

Editing instructions use the term "paragraph" rather than "statement".
The "Insert" editing instruction does not use underline to indicate insertion.

SuggestedRemedy

In the editing instruction, change "after the statement" to "after the paragraph".
Remove the underline from the inserted text.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **56**   Page 19 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **56.1.3**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **56**   *SC* **56.1.3**   *P* **50**   *L* **25**   # 398

Dawe, Piers   Mellanox
Comment Type   **T**   *Comment Status* **A**

You can't make a PON with a single PMD type. Also, there are options.

SuggestedRemedy

Change "All these systems employ a PMD defined in Clause 141." to "All these systems employ PMDs defined in Clause 141."

Response   *Response Status* **C**

ACCEPT.

Cl **56**   *SC* **56.1.3**   *P* **51**   *L* **6**   # 427

Dawe, Piers   Mellanox
Comment Type   **ER**   *Comment Status* **R**

The standard clause order is down the layer stack: MAC then RS then PCS then PMA then PMD. We are stuck with the eccentric order of some previous projects but we can do a new one right.

SuggestedRemedy

Renumber the clauses 141-144: MPMC then MCRS then PCS/PMA then PMD.
We can also order the existing columns in Table 56-3 from top to bottom - they don't have to be in numerical order

Response   *Response Status* **U**

REJECT.

The clause order follows the clause order used by P2MP projects before.

Cl **56**   *SC* **56.1.3**   *P* **54**   *L* **5**   # 284

Wienckowski, Natalie   General Motors
Comment Type   **T**   *Comment Status* **A**

Clause 100 was removed from Table 56-3 but wasn't put into Table 56-4.

SuggestedRemedy

Add Clause 100 in Table 56-4.

Response   *Response Status* **C**

ACCEPT.

Cl **67**   *SC* **67**   *P* **55**   *L* **1**   # 326

Laubach, Mark   Broadcom
Comment Type   **TR**   *Comment Status* **A**

Draft is missing updates to Clause 67 for System considerations for Ethernet subscriber access networks

SuggestedRemedy

Update Table 67-1 as per laubach_3ca_1_0719.pdf to add entries for the P802.3ca media types.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

As proposed, but rather with the following changes:
- "50000" to "50 Gb/s",
- "25000" to "25 Gb/s"
- "10000" to "10 Gb/s"
Edit also the rate column, removing "Mb/s" from column title and change "100" to "100 Mb/s". Change all "1000" and "10000" entries to "Gb/s multiples. Updates notes accordingly as well.

Cl **141**   *SC* **141**   *P* **55**   *L* **1**   # 121

Remein, Duane   Futurewei Technologies, Inc.
Comment Type   **E**   *Comment Status* **A**   *bucket*

It is customary to include an editing Instruction prior to new clauses as noted in the WG Template v3.9.

SuggestedRemedy

Insert before Clause 141
"Insert new clauses and corresponding annexes as follows:"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141**

Page 20 of 103
9/17/2019 11:11:42 AM

Cl **141**   *SC* **141.1.2**   *P* **56**   *L* **1**   # 17

Hajduczenia, Marek   Charter Communications

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

Figure 141–1 shows Nx25G-EPON and not EPON.

SuggestedRemedy

Change "EPON" to "Nx25G-EPON" in caption.
Also, we need to show XGMII in there as an option for OLT and ONU, since we also support asymmetric mode of operation with 10Gbps dat arate

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "EPON" to "Nx25G-EPON" in caption.

See comment #122 for XGMII-related changes.

Cl **141**   *SC* **141.1.2**   *P* **56**   *L* **1**   # 122

Remein, Duane   Futurewei Technologies, Inc.

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

In Fig 141-1 (and the other similar figures in 142, 143, & 144) all show two 25GMII interfaces but never indicate use of the XGMII.

SuggestedRemedy

For each of the four figures in 2 places, adjacent to the right of OLT and ONU 25GMII, add "Note 1". Below the graphic and above the key add the following: "Note 1: in some instances of Nx25-EPON one-half of an XGMII (transmit or receive) may be paired with a complementary half (receive or transmit) of a 25GMII to provide a 25Gb/s downstream and 10Gb/s upstream interface."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is true only for channel 0 interface. It is better to add two lettered footnotes:
a) (attached to the first 25GMII interface) - "In some instances of Nx25-EPON one-half of an XGMII (transmit or receive) may be paired with its complementary peer (receive or transmit) of a 25GMII to provide a 25Gb/s downstream and 10Gb/s upstream interface."
b) (attached to the second 25GMII interface) - "This interface may be absent in devices that do not support 50G-EPON PMDs."

Apply to ISO diagrams for .3ca in Clause 141, 142, 143, 144, and 56.

Cl **141**   *SC* **141.1.3**   *P* **55**   *L* **31**   # 356

Dudek, Mike   Marvell

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

Other than it saying DW0 +DW1 for the 50G link in table 141-7 and there being two wavelengths listed in table 141-3 etc. it is not obvious that wdm is being used for 50G.

SuggestedRemedy

Add a sentence at the end of the paragraph (at line 31). "Links supporting 50Gb/s use wavelength division multiplexing on two wavelengths and hence two wavelengths are listed for these links.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text with terminology alignment:

"Nx25G-EPON PHY Link Types supporting 50 Gb/s use wavelength division multiplexing on two wavelengths; two wavelengths are listed for these links in Table 141–1 through Table 141–5."

Cl **141**   *SC* **141.1.3**   *P* **55**   *L* **38**   # 285

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 25.78125
To: 25.781 25

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**   Page 21 of 103
SC **141.1.3**   9/17/2019 11:11:42 AM

Cl **141** *SC* **141.1.3** *P* **55** *L* **39** # 286

Wienckowski, Natalie General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 10.3125
To: 10.312 5

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **141** *SC* **141.1.3** *P* **57** *L* **8** # 287

Wienckowski, Natalie General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 25.78125
To: 25.781 25
Also on P57 L9, P57 L 24, P57 L40, P57 L41, P58 L 6, P58 L7, P66 L11, P67 L13, P71 L11, P72 L13, P73 L18, & P74 L14.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **141** *SC* **141.1.3** *P* **57** *L* **25** # 288

Wienckowski, Natalie General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 10.3125
To: 10.312 5

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **141** *SC* **141.2.5** *P* **58** *L* **1** # 403

Dawe, Piers Mellanox

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

"A medium PMD power class" and "A high PMD power class" but "The medium power budget class"

SuggestedRemedy

Per style manual: use the same name for the same thing, every time.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "The medium power budget class" to "The medium PMD power class". Change "high power budget class" to "The high PMD power class"

Cl **141** *SC* **141.2.5** *P* **58** *L* **50** # 401

Dawe, Piers Mellanox

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

with the split ratio of

SuggestedRemedy

with a split ratio of

Response *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general *Cl* **141** Page 22 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **141.2.5** 9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.2.5**   *P* **58**   *L* **50**   # 402

Dawe, Piers   Mellanox

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

Will these work over less than 1:16 and/or less than 20 km? As stated, it's all about overload. But that contradicts "<= x dB".

SuggestedRemedy

Rephrase "at least".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the "at least" statements for both power budgets.

Cl **141**   *SC* **141.2.6**   *P* **59**   *L* **9**   # 18

Hajduczenia, Marek   Charter Communications

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

it would be easier on reader's eyes to see r₁ and not r1. Same for r2. This is used only in this clase, so changes are minimum

SuggestedRemedy

Per comment

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.6**   *P* **59**   *L* **17**   # 406

Dawe, Piers   Mellanox

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

"rate class (in Gb/s)", "PMDs operate at Gigabit rates"

SuggestedRemedy

Gigabit -> gigabit/s. But actually, G is a multiplier for r1/r2

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "Nx25G-EPON PMD naming conforms to the following convention" to "Nx25G-EPON PMD naming conforms to the following semantic convention"
Change "class (in Gb/s)" to "class" in 2 instances.
Change "PMDs operate at Gigabit rates" to "PMDs operate at Gb/s rates"

Cl **141**   *SC* **141.2.6**   *P* **59**   *L* **18**   # 405

Dawe, Piers   Mellanox

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

Optical PMDs don't use a baseband signal! 1.2.3 says only "The modulation type (e.g., BASE) indicates how encoded data is transmitted on the medium".

SuggestedRemedy

So far, optical PMDs all have BASE in their name (so in effect, it just signifies Ethernet) and all use "intensity modulation". However, P802.3ct may call coherent PMDs "BASE" too. This cell could be left blank.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **29**   # 408

Dawe, Piers   Mellanox

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

paired PMDs transmitter launch power and receiver sensitivity

SuggestedRemedy

paired PMD's transmitter launch powers and receiver sensitivities

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change to "paired PMDs' transmitter launch powers and receiver sensitivities"

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **29**   # 407

Dawe, Piers   Mellanox

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

"a power budget is a characteristic of a link"

SuggestedRemedy

No, attenuation or "insertion loss" is a characteristic of the link. A power budget is a characteristic of a pair of PMD types, of a link type, or of a class of links.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change

"a power budget is a characteristic of a link"

to

"a power budget is a characteristic of a link type"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 23 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.2.7**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **33**   # 410

Dawe, Piers   Mellanox

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

Aside from the notes about "same coexistence mode, either X or G": If one is not interested in coexistence, (or even if one is), in what circumstances can a G connect to another G, or to an X?

SuggestedRemedy

Spell it out clearly

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a new sentence on page 59, line 34 (end of existing para): "Connection between G and X coexistence type PMDs is not supported, e.g., 25/10GBASE-PQG-D2 OLT PMD is not interoperable with 25/10GBASE-PQX-U2 due to non-overlapping OLT receiver sensitivity window and ONU transmitter wavelength range."

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **35**   # 329

Laubach, Mark   Broadcom

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

Table 141-7, as table is split across pages, missing bottom ruling of table on page 59 and missing "(continued)" in table title on page 60. This is Framemaker table stuff.

SuggestedRemedy

Add the ruling. Do the variable thing to add the "(continue)".

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **38**   # 409

Dawe, Piers   Mellanox

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

Dow
nstream

SuggestedRemedy

Break after the /

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.7**   *P* **59**   *L* **40**   # 19

Hajduczenia, Marek   Charter Communications

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

Footnote (b) location in Table 141–7 is odd (it moved to a new line)

SuggestedRemedy

Make sure footnote (b) location is with the main text of the column caption (extend column size a bit)

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.7**   *P* **60**   *L* **1**   # 20

Hajduczenia, Marek   Charter Communications

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

No "(continued) marker for Table 141-7 caption

SuggestedRemedy

Make sure it is added

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.2.7.1**   *P* **60**   *L* **19**   # 21

Hajduczenia, Marek   Charter Communications

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

"Table 141–8 illustrates recommended pairings …" - it implies these are just recommendations and other pairings are possible

SuggestedRemedy

Strike "recommended"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 24 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.2.7.1**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.2.7.1**   *P* **60**   *L* **41**   # 22

Hajduczenia, Marek   Charter Communications

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

Subclause 141.2.3 refers to coexistence options as coexistence classes and not coexistence modes

SuggestedRemedy

Change "support the same coexistence mode" to "support the same coexistence class" The same change on Page 61, like 25

Response   *Response Status* **C**

REJECT.

"support the same coexistence class" is wrong. They either support the same coexistence mode, or they belong to the same coexistence class.

Cl **141**   *SC* **141.3**   *P* **61**   *L* **29**   # 123

Remein, Duane   Futurewei Technologies, Inc.

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

There are 9 instance of "PQ type PMD" and 15 instances of "Nx25G-EPON PMD". These two terms are synonymous and we should only use one. Note that Fig 141-2 is referred to using PQ type PMDs but the title indicates Nx25F-EPON PMD and Table 141-1 title is " for Nx25G-EPON PMDs" but PMD type is "PQ type PMD".
Fewer new terms are easier on the 1st time reader.

SuggestedRemedy

Change all instance of
"PQ type PMD" to
"25G-EPON PMD"

Note 1x in Cl 142

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change all instance of
"PQ type PMD" to
"Nx25G-EPON PMD"

Cl **141**   *SC* **141.3.1.1**   *P* **61**   *L* **50**   # 411

Dawe, Piers   Mellanox

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

EQT?

SuggestedRemedy

As this is its first apperance, explain, e.g. with a cross-reference

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert cross reference to 1.4.245b

Cl **141**   *SC* **141.3.1.2**   *P* **62**   *L* **1**   # 413

Dawe, Piers   Mellanox

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

80.3.3.1 has "The IS_UNITDATA_i.request (where i = 0 to n – 1) primitive is used..." Why does this use [ ] notation for what seems to be an equivalent thing?

SuggestedRemedy

Be consistent. Explain what i is.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert "(where i = 0 or 1)", after:
- PMD_UNITDATA[i].request(tx_bit), page 62, line 5
- PMD_UNITDATA[i].indication(rx_bit), page 62, line 18
- PMD_SIGNAL[i].request(tx_enable), page 62, line 31
- PMD_SIGNAL[i].indication(SIGNAL_DETECT), page 62, line 39

Add the statement: "For any indexed test point (e.g., TP1[i]), [i] indicates the channel index, where i = 0 or 1." at the end of para on page 62, line 52.

Cl **141**   *SC* **141.3.1.2**   *P* **62**   *L* **8**   # 412

Dawe, Piers   Mellanox

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

signaling speed

SuggestedRemedy

signaling rate

Response   *Response Status* **C**

ACCEPT.

Change all instances

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.3.1.2**

Page 25 of 103
9/17/2019 11:11:42 AM

Cl **141**   *SC* **141.3.3**   *P* **64**   *L* **2**   # 414

Dawe, Piers   Mellanox

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

As there are three levels

SuggestedRemedy

Change "higher" to "highest"

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.3.3**   *P* **64**   *L* **2**   # 355

Dudek, Mike   Marvell

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

I could not find which bits are allocated to DW1 and which to DW0. I would have expected
that information to be in 141.3.3 and 141.3.4. Does it matter?   (I suspect it does).

SuggestedRemedy

Add the extra information or state explicitly that it doesn't matter.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement changes per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_11_0719.pdf

---

Cl **141**   *SC* **141.3.6**   *P* **64**   *L* **45**   # 415

Dawe, Piers   Mellanox

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

Just saying "it's defined" isn't enough.

SuggestedRemedy

Define it (at a superficial level), or refer to somewhere that does.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Strike 141.3.6 and its contents. Primitive is already defined in 141.3.1.4.

Cl **141**   *SC* **141.5**   *P* **65**   *L*   # 350

Laubach, Mark   Broadcom

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

There are 48 uses of a plus-minus symbol in the draft. The majority uses a non-breaking
space between the symbol and the following number. Suggest making the 5 uses in lines 6
through 7 and 15 through 19 consistent.

SuggestedRemedy

Add the non-breaking space after the plus-minus symbol.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5**   *P* **65**   *L* **24**   # 124

Remein, Duane   Futurewei Technologies, Inc.

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

There are 2 instances of "PQ PHY". Whereas Nx25G-EPON PHY appears 256 times.
Random new terms are not desirable.

SuggestedRemedy

Change
"PQ PHY" to
"Nx25G-EPON PHY"

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5**   *P* **65**   *L* **25**   # 125

Remein, Duane   Futurewei Technologies, Inc.

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

There are 2 instances of "PQ compliant". Whereas Nx25G-EPON PHY appears 256
times. Random new terms are not desirable.

SuggestedRemedy

Change all instances of
"PQ compliant" to
"Nx25G-EPON compliant"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 26 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.5**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.5.1**   *P* **66**   *L* **16**   # 95

Anslow, Pete   Ciena

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

IEEE uses an en-dash as a minus sign
Empty cells in tables contain an em-dash

SuggestedRemedy

Change the minus sign to an en-dash (Ctrl-q Shft-p) throughout the entire draft. For
example:
3 instances in Table 141-13
3 instances in Table 141-14
8 instances in Table 141-15 (and footnote d)
9 instances in Table 141-16 (and footnote e)
3 instances in Table 141-17
3 instances in Table 141-18
8 instances in Table 141-19 (and footnote c)
8 instances in Table 141-20
4 instances in Table 141-21
etc.
Populate empty table cells with an em-dash (Ctrl-q Shft-q) throughout the entire draft. For
example:
2 instances in Table 141-13
2 instances in Table 141-14
2 instances in Table 141-17
2 instances in Table 141-18
etc.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.1**   *P* **66**   *L* **22**   # 96

Anslow, Pete   Ciena

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

">=" should be a single character (Ctrl-q 8 in Symbol font)
Same issue in Table 141-14

SuggestedRemedy

change ">=" to a single character (Ctrl-q 8 in Symbol font) here and in Table 141-14 (page
67, line 22)

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.1**   *P* **66**   *L* **27**   # 416

Dawe, Piers   Mellanox

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

An extinction ratio minimum of 8 dB sounds like an unhelpful constraint, which may force
implementers to set up at worse TDP than they could have done.

SuggestedRemedy

Relax the extinction ratio minimum, add another OMA-TDP class at line 24 as necessary.
This will cost the receiver nothing and widen the implementation options for the
transmitter. Adjust note b from "at minimum extinction ratio" to "at 8 dB extinction ratio".

Response   *Response Status* **U**

REJECT.

All PMD parameter calculations have been done around ER (min) of 8dB and any changes
to ER value would cause ripple effects for all receive side specs. A complete proposal for
Tx and Rx specifications for lower ER (min) value would be needed. To date experimental
data shows ER (min) of 8dB not presenting any issues.

Cl **141**   *SC* **141.5.1**   *P* **66**   *L* **34**   # 417

Dawe, Piers   Mellanox

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

10GBASE-SR: BER 1e-12, TDP max 3.9, mask {0.25, 0.40, 0.45, 0.25, 0.28, 0.40} ("no
hits") or
{0.235, 0.395, 0.45, 0.235, 0.265, 0.4} at 5e10-5 hits/sample
40GBASE-SR4: BER 1e-12, TDP max 3.5, mask {0.23, 0.34, 0.43, 0.27, 0.35, 0.4} at 5e10-
5 hits/ sample
25GBASE-SR: BER 5e10-5, TDEC max 4.3 dB, mask {0.3, 0.38, 0.45, 0.35, 0.41, 0.5} at
1.5e-3 hits/sample. KR FEC
25GBASE-LR, ER: BER 5e10-5, TDP max 2.7 dB, {0.31, 0.4, 0.45, 0.34, 0.38, 0.4} at 5e-5
hits/sample. KR FEC
This draft OLT: BER 1e-2, TDP max 1.5 dB, {0.25, 0.4, 0.45, 0.25, 0.28, 0.4} at 5e-5
hits/sample. QC-LDPC FEC
ONU BER 1e-2, TDP max 2 dB, mask coordinates as 25GBASE-LR, ER.   QC-LDPC FEC

SuggestedRemedy

So we need a new mask hit ratio, somewhere near 1e-2, and should review the mask
coordinates when that is known.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Insert an editor's note indicating that the new mask will be needed and submitted as a
comment against the next draft(s).

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 27 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.5.1**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.5.1**   *P* **66**   *L* **35**   # 23

Hajduczenia, Marek   Charter Communications

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

"the OMA (min) must exceed this value" - sounds like it is intended to be a hard requirement? If that is the case, it shoul dbe converted into a "shall" statement and PICS updated accordingly

SuggestedRemedy

Per comment. The same comment applies to page 67, like 35; page 71, line 46, and page 72, line 42

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The footnotes are already normative as formatted right now.

Convert "must" statements into informative statements, e.g.,
"(min) must exceed this value"
becomes
"(min) exceeds this value"

Cl **141**   *SC* **141.5.2**   *P* **68**   *L* **3**   # 126

Remein, Duane   Futurewei Technologies, Inc.

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

50/25GBASE-PQG-D2 and 50/25GBASE-PQX-D2 appear in Table 141-15 twice, once with a single receive wavelength and once with two.

The same issues exists in Tables 141-16, 141-17 & 141-18.

SuggestedRemedy

Remove the 2nd instance (indicating 2 center wavelengths) of both.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.2**   *P* **68**   *L* **32**   # 418

Dawe, Piers   Mellanox

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

If these PMDs use FEC, probably the stressed receive signal should be defined by SEC, J2 and J4, as 25GBASE-SR, LR and ER, rather than VECP, J2 and J9 as 40GBASE-SR4.

SuggestedRemedy

But as the pre-BER is 1e-2, even J4 is wrong. Maybe Jrms and J3 would be suitable. SEC can easily be defined for a BER of 1e-2.

Response   *Response Status* **U**

REJECT.

Per http://www.ieee802.org/3/cc/public/adhoc/160907/tamura_3cc_adhoc_01.pdf, the current .3ca method of SRS measurement based on 100GBASE-LR/ER SRS is more conservative than SRS for a single wavelength of 100GBASE-SR4/LR/ER. There is no need to rework the specification at this time.

See http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/powell_3ca_2a_0719.pdf for detailed discussion.

Cl **141**   *SC* **141.5.2**   *P* **68**   *L* **35**   # 439

Powell, William   Nokia

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

Tables 141–15: In addition to "Vertical eye closure penalty", footnote (f) should also apply to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" since it refers to all 3 parameters, and to make it consistent with footnote (e) in Table 141-19.

SuggestedRemedy

Apply footnote (f) to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" in Table 141-15.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.2**   *P* **68**   *L* **37**   # 310

Lynskey, Eric   Broadcom

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

Table 141-15 references Table 75-6, which does not contain two entries for stressed eye jitter.

SuggestedRemedy

Mark this cell as not applicable.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.5.2**

Page 28 of 103
9/17/2019 11:11:42 AM

Cl **141**   *SC* **141.5.2**   *P* **69**   *L* **20**   *#* 437

Powell, William   Nokia

Comment Type **TR**   *Comment Status* **A**   *Average receive power*

Table 141-16 has an entry for Average receive power, each channel (min) while it's medium power class cousin, Table 141-15, does not, which is not consistent. That entry should be removed per the rationale in comment #279 on D1.1 (John Johnson): "The inclusion of an informative spec on minimum average receive power doesn't serve any purpose to specify a compliant RX. An RX that meets the requirements of maximum receiver sensitivity (OMA) and maximum stressed receiver sensitivity (OMA) is compliant, even for very low values of AVP associated with very high ER signals."

SuggestedRemedy

Remove Average receive power, each channel (min) from Table 141-16.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #446

Cl **141**   *SC* **141.5.2**   *P* **69**   *L* **20**   *#* 446

Johnson, John   Broadcom

Comment Type **T**   *Comment Status* **A**   *Average receive power*

The inclusion of an informative spec on minimum average receive power doesn't serve any purpose to specify a compliant RX. An RX that meets the requirements of maximum receiver sensitivity (OMA) and maximum stressed receiver sensitivity (OMA) is compliant, even for very low values of AVP associated with very high ER signals. This line should be removed from Table 141-16. (This repeats a comment originally submitted against D1.1)

SuggestedRemedy

Delete the line for "Average receive power, each channel (min)" in Table 141-16 and remove associated footnote (d).

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.2**   *P* **69**   *L* **20**   *#* 308

Lynskey, Eric   Broadcom

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

Table 141-16 references Table 75-6, which does not contain an entry for Average receive power (min).

SuggestedRemedy

Mark this cell as not applicable.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.2**   *P* **69**   *L* **37**   *#* 441

Powell, William   Nokia

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

Table 141–16: In addition to "Vertical eye closure penalty", footnote (g) should also apply to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" since it refers to all 3 parameters, and to make it consistent with Table 141-19.

SuggestedRemedy

Apply footnote (g) to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" in Table 141-16.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.5.2**   *P* **69**   *L* **38**   *#* 309

Lynskey, Eric   Broadcom

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

Table 141-16 references Table 75-6, which does not contain two entries for stressed eye jitter.

SuggestedRemedy

Mark this cell as not applicable.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.6**   *P* **70**   *L* **7**   *#* 127

Remein, Duane   Futurewei Technologies, Inc.

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

Table 141-21 does not list media types as asserted in the following "A PQ compliant transceiver operates over the media types listed in Table 141–21 according to the specifications described in 141.9".
We could restructure the table similar to Table 75-14 or change the statement.

SuggestedRemedy

Change:
"media types listed in" to
"media meeting the dispersion shown in"

Response   *Response Status* **C**

ACCEPT.

Comment type was changed to "T".

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 29 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.6**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.6.2**   *P***73**   *L***39**   *#* 25

Hajduczenia, Marek   Charter Communications

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

Explicit "shall" statement with no paired PICS

SuggestedRemedy

Given that the table is normative as is, if this statement needs to be normative on its own, it needs to be added extra into PICS independently. Given that the same statement exists for each OLT and ONU receiver type, we could either add a new statement to 141.10.4.1 (FN13) or add a new statement into each and every PICS subclause for every PMD type (141.10.4.2 onwards). My preference is on the first approach

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "The receiver shall be able to tolerate" to "The receiver tolerates".

Similar change under Table 141–15, Table 141–16, Table 141–20.

Cl **141**   *SC* **141.6.2**   *P***74**   *L***19**   *#* 447

Johnson, John   Broadcom

Comment Type **T**   *Comment Status* **A**   *Average receive power*

The inclusion of an informative spec on minimum average receive power doesn't serve any purpose to specify a compliant RX. An RX that meets the requirements of maximum receiver sensitivity (OMA) and maximum stressed receiver sensitivity (OMA) is compliant, even for very low values of AVP associated with very high ER signals. This line should be removed from Table 141-20. (This repeats a comment originally submitted against D1.1)

SuggestedRemedy

Delete the line for "Average receive power, each channel (min)" in Table 141-20.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.6.2**   *P***74**   *L***19**   *#* 438

Powell, William   Nokia

Comment Type **TR**   *Comment Status* **A**   *Average receive power*

Table 141-20 has an entry for Average receive power, each channel (min) while it's medium power class cousin, Table 141-19, does not, which is not consistent. That entry should be removed per the rationale in comment #283 on D1.1 (John Johnson): "The inclusion of an informative spec on minimum average receive power doesn't serve any purpose to specify a compliant RX. An RX that meets the requirements of maximum receiver sensitivity (OMA) and maximum stressed receiver sensitivity (OMA) is compliant, even for very low values of AVP associated with very high ER signals."

SuggestedRemedy

Remove Average receive power, each channel (min) from Table 141-20.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #447

Cl **141**   *SC* **141.6.2**   *P***74**   *L***30**   *#* 440

Powell, William   Nokia

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

Tables 141–20: In addition to "Vertical eye closure penalty", footnote (f) should also apply to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" since it refers to all 3 parameters, and to make it consistent with footnote (e) in Table 141-19.

SuggestedRemedy

Apply footnote (f) to "Stressed eye J2 Jitter" and "Stressed eye J9 Jitter" in Table 141-20.

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.7**   *P***75**   *L***4**   *#* 24

Hajduczenia, Marek   Charter Communications

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

SuggestedRemedy

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **141**   Page 30 of 103
                    SC **141.7**   9/17/2019 11:11:42 AM

Cl **141**	*SC* **141.7.1**	*P* **75**	*L* **11**	# 56

Kolesar, Paul   CommScope

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

Suboptimal and possibly conflicting reference for insertion loss testing. The ITU reference is mostly for measurements in a factory environment. The IEC reference in clause 141.9.1 is for installed cabling and more relevant to the qualification of cable plant in the field.

SuggestedRemedy

Replace "A suitable test method is described in ITU–T G.650.1." with "Insertion loss measurements of installed fiber cables are made in accordance with IEC 61280–4–2."

Response   *Response Status* **C**

ACCEPT.

Cl **141**	*SC* **141.7.2**	*P* **75**	*L* **18**	# 128

Remein, Duane   Futurewei Technologies, Inc.

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

We should note that Table 88-11 specifies "valid 100GBASE-R signal" in some instances.

SuggestedRemedy

Add to the end of the para "A valid 25G-EPON signal is substituted for the 100GBASE-R signal specified in Table 88-16."
Highlight Table 88-16 in forest green.

Response   *Response Status* **C**

ACCEPT.

Cl **141**	*SC* **141.7.4**	*P* **75**	*L* **31**	# 419

Dawe, Piers   Mellanox

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

ANSI/EIA-455-95 is not in the normative references but IEC 61280-1-1 is.

SuggestedRemedy

ANSI/EIA-455-95 to IEC 61280-1-1

Response   *Response Status* **C**

ACCEPT.

Cl **141**	*SC* **141.7.5**	*P* **75**	*L* **36**	# 57

Kolesar, Paul   CommScope

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

Incorrect reference to test method. Digits appear transposed.

SuggestedRemedy

Replace 61820-2-2 with 61280-2-2.

Response   *Response Status* **C**

ACCEPT.

Cl **141**	*SC* **141.7.9**	*P* **76**	*L*	# 421

Dawe, Piers   Mellanox

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

141.7.9.1 reference Tx, 141.7.9.3 reference Rx and 141.7.9.4 (BER) don't apply to the 10G Tx in an ONU.

SuggestedRemedy

Add text to make this clear, as it is in 141.7.10, Receive sensitivity and 141.7.11, SRS.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "141.7.9 Transmitter and dispersion penalty (TDP)" to "141.7.9 Transmitter and dispersion penalty (TDP) for 25G"

Cl **141**	*SC* **141.7.9**	*P* **76**	*L* **6**	# 420

Dawe, Piers   Mellanox

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

141.7.9 (TDP) references 88.8.5 but 88.8.5.4 says "as defined in 52.9.10.4 ...the BER of 1 x 10^-12". However, 141.7.9.4 says BER of 1 x 10^-2.

SuggestedRemedy

Change "with an optical channel that meets the requirements listed in 141.7.9.2" to "with the exceptions in 141.7.9.2 and 141.7.9.4".

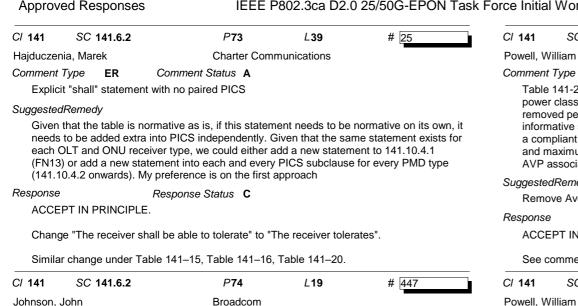*Response*   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.7.9**

Page 31 of 103
9/17/2019 11:11:42 AM

Cl **141**   *SC* **141.7.9.2**   *P* **76**   *L* **22**   # 97

Anslow, Pete   Ciena

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

The equation for Dmin (Equation 141-1) is the minimum of three terms:
0
0.365*lambda*(1 - (1324/lambda)^4)
0.465*lambda*(1 - (1324/lambda)^4)
When lambda is greater than 1324 nm, the second and third terms are positive and Dmin is zero.
When lambda is less than 1324 nm, the second and third terms are negative and the third term is always more negative than the second term.
Consequently, the second term has no effect on the value of Dmin and should be deleted.
Likewise in the equation for Dmax (Equation 141-2) the second term has no effect on the value of Dmax and should be deleted.

SuggestedRemedy

In Equation (141-1) delete the second term 0.365*lambda*(1 - (1324/lambda)^4) leaving:
Dmin = min(0, 0.465*lambda*(1 - (1324/lambda)^4))

In Equation (141-2) delete the second term 0.365*lambda*(1 - (1300/lambda)^4) leaving:
Dmax = max(0, 0.465*lambda*(1 - (1300/lambda)^4))

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.7.9.4**   *P* **76**   *L* **44**   # 129

Remein, Duane   Futurewei Technologies, Inc.

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

This is the only instance of "lane" that doesn't apply to the IEEE address (as in Hoe's Lane) or an xMII lane.

SuggestedRemedy

Change "lane" to "channel"

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.7.10**   *P* **76**   *L* **47**   # 130

Remein, Duane   Futurewei Technologies, Inc.

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

Unwarranted Wild Goose Chase . Here -> 141.7.2 -> Table 88-11.
Also I don't think we define Rx sensitive for test patterns.

SuggestedRemedy

Change
"Receiver sensitivity is defined for test patterns in 75.7.3 (10G) and 141.7.2 (25G)." to
"The test patterns in 75.7.3 (10G) and Table 83-11 (25G) are use to test receiver sensitivity."
"75.7.3" & "Table 88-11" in forest green.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment type changed to "T"

After editorial fixes

Change
"Receiver sensitivity is defined for test patterns in 75.7.3 (10G) and 141.7.2 (25G)." to
"The test patterns in 75.7.3 (10G) and 141.7.2 (25G) are used to test receiver sensitivity."
"75.7.3" in forest green.

Cl **141**   *SC* **141.7.10**   *P* **76**   *L* **48**   # 422

Dawe, Piers   Mellanox

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

Receive sensitivity

SuggestedRemedy

Receiver sensitivity

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 32 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.7.10**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.7.12**   *P* **77**   *L* **12**   # 424

Dawe, Piers   Mellanox

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

"When measuring jitter at TP1[i] and TP5[i]" do we give even recommendations for jitter at TP1[i] and TP5[i] in this clause?

SuggestedRemedy

Delete? Change to address the jitter measurements we do have (in SRS calibration)?

Response   *Response Status*   **C**

REJECT.

Per 141.3.2, measurements made at TP1 and TP5 are test points used by implementers, and are not to be used as compliance test points for this standard. Thus, the guidance in 141.7.12 on use of high pass filters for TX jitter measurement at TP1 and TP5 are not compliance test points that require a jitter measurement verification. All transmitter measurements and tests defined in 141.7 are made at TP2 or TP6.

Cl **141**   *SC* **141.7.12**   *P* **77**   *L* **12**   # 423

Dawe, Piers   Mellanox

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

Filtering out the low frequency jitter is a necessary part of the definition, it can't be left "recommended" or there is significant ambiguity.

SuggestedRemedy

Usually the same reference CRU as for several other definitions is invoked. This can be done by reference.
We may need to say more, e.g. references to the jitter metrics such as J2.

Response   *Response Status*   **C**

REJECT.

The specification method was derived from 10G-EPON (see 75.7) and uses similar language. No changes to the draft at this time.

Cl **141**   *SC* **141.7.13.1**   *P* **78**   *L* **7**   # 425

Dawe, Piers   Mellanox

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

Fig 141-3 does not show Toff correctly. 15% does not come into it.

SuggestedRemedy

It's simply the time to the average power of OFF transmitter in the relevant table.

Response   *Response Status*   **C**

REJECT.

In subclause 141.7.13.2, Toff measurement does include 15% threshold for measurement of Toff.

Cl **141**   *SC* **141.7.13.2**   *P* **77**   *L* **41**   # 131

Remein, Duane   Futurewei Technologies, Inc.

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

There is no TP4 in Figure 141-4: "the optical signal at TP3 to an electrical signal at TP4 ..."

SuggestedRemedy

Strike "at TP4"

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Add TP4 between converter and scope.

Cl **141**   *SC* **141.7.13.2**   *P* **77**   *L* **42**   # 29

Hajduczenia, Marek   Charter Communications

Comment Type   **ER**   *Comment Status*   **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "A scope, with a variable delay, can measure" to "A scope, with a variable delay, is able to measure"

Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **141**
SC **141.7.13.2**

Page 33 of 103
9/17/2019 11:11:42 AM

Cl **141**	*SC* **141.7.13.2**	*P* **77**	*L* **49**	# 26

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *must-vs-shall*

"must" used and not intended per Style Guide

SuggestedRemedy

Change "Notice that only the steady state optical OFF power must be conformed" to "Notice that only the steady state optical OFF power is expected to be conformed"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "Notice that only the steady state optical OFF power must be conformed" to "Notice that only the steady state optical OFF power is confirmed"

Cl **141**	*SC* **141.7.13.2**	*P* **78**	*L* **1**	# 98

Anslow, Pete   Ciena

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

Some of the figures in the draft are appropriately drawn. However, a number of the figures are inserted as bit maps.
This has several drawbacks: the rendition of the figures is poor making small text difficult to read, the use of bit maps increases the file size unnecessarily, the text content of the figures is not searchable and most importantly, including non-editable figures makes life difficult if changes are required in Maintenance after the figure has been incorporated into the next revision.

SuggestedRemedy

Go through the entire draft replacing figures that have been pasted as bit maps with versions that are drawn in FrameMaker.
If there are any figures illustrating equations, use a vector graphics (e.g. .svg format) and apply any text annotations in FrameMaker.
Example figures needing to be replaced are Figures 141-3, 142-2, 142-5, 142-6, 142-7, 142-8, 142-9, 142-13, 142-14, 142-15, 142-16, 142-18, 143-1, 143-2, 143-3, 143-4, 143-5, 143-6, 143-7, 143-8, 143-9, 143-12, 143-13, 143-15, 143-16, 144-3, 144-4, 144-5, 144-6, 144-7, 144-8, 144-9, 144-10, 144-11, 144-12, 144-13, 144-13, 144-14, 144-15, 144-16, 144-17, 144-18, 144-20, 144-21, 144-22, 144-23, 144-24, 144-25, 144-26, 144-27, 144-28, 144-29, 144-31, 144-32, 144-33, 144-34, 142A-1

Response   *Response Status* **W**

ACCEPT.

Cl **141**	*SC* **141.7.14**	*P* **78**	*L* **48**	# 132

Remein, Duane   Futurewei Technologies, Inc.

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

The illustration is Figure 141-5 not 141.7.13.2

SuggestedRemedy

Change "141.7.13.2" to "Figure 141–5"

Response   *Response Status* **C**

ACCEPT.

Cl **141**	*SC* **141.7.14**	*P* **78**	*L* **48**	# 426

Dawe, Piers   Mellanox

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

141.7.13.2

SuggestedRemedy

141.7.14.2

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #132

Cl **141**	*SC* **141.7.14.2**	*P* **79**	*L* **49**	# 27

Hajduczenia, Marek   Charter Communications

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

"must" used and not intended per Style Guide

SuggestedRemedy

Change "time must be met in the following scenarios" to "time is expected to be met in the following scenarios"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **141**   Page 34 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **141.7.14.2**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141** *SC* **141.9.1** *P* **81** *L* **10** # 55

Kolesar, Paul   CommScope

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

Outdated reference to 61280-2-4:2000

SuggestedRemedy

This standard was revised in 2014. But the reference should be undated to always imply
the latest revision. Remove ":2000" from the reference.

Response   *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.9.2** *P* **81** *L* **17** # 369

Dawe, Piers   Mellanox

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

described in Table 141–21

SuggestedRemedy

given in Table 141–21

Response   *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.9.2** *P* **81** *L* **25** # 100

Anslow, Pete   Ciena

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

In Table 141-21 "20km" should be "20 km" (space between a number and its unit)

SuggestedRemedy

In Table 141-21, change "20km" to "20 km" (2 instances)

Response   *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.9.2** *P* **81** *L* **25** # 435

Dawe, Piers   Mellanox

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

Max Dispersion (at 20km)

SuggestedRemedy

Max dispersion (at 20 space km)
Similarly for Min

Response   *Response Status* **C**

ACCEPT.

Cl **141** *SC* **141.9.2** *P* **81** *L* **28** # 370

Dawe, Piers   Mellanox

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

sec-
tion

SuggestedRemedy

Make the table full width

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general *Cl* **141** Page 35 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **141.9.2** 9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **141**   *SC* **141.9.2**   *P* **81**   *L* **30**   # 99

Anslow, Pete   Ciena

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

The first sentence of footnote b to Table 141-21 is: "These dispersion requirements are satisfied by fibers specified in ITU–T G.652D (low water peak, dispersion unshifted SMF) and ITU–T G.657A (bend–insensitive SMF)."
The two ITU-T Recommendations are G.652 and G.657. The 2016 version of G.652 (as referenced by the P802.3ca draft) contains specifications for two fiber types G.652.B and G.652.D (note the extra dot between 652 and the letter B or D). The 2009 version of G.657 (as per the base standard) contains specifications for two fiber types G.657 Category A and G.657 Category B. The 2016 version of G.657 (not referenced) contains specifications for two fiber types G.657.A and G.657.B.
Consequently, the first sentence of footnote b to Table 141-21 is incorrect.

SuggestedRemedy

Change the first sentence of footnote b to Table 141-21 to either:
"These dispersion requirements are satisfied by fibers specified in ITU–T G.652 (low water peak, dispersion unshifted SMF) and ITU–T G.657 (bend–insensitive SMF)."
or:
"These dispersion requirements are satisfied by G.652.D fibers specified in ITU–T G.652 (low water peak, dispersion unshifted SMF) and G.657 Category A fibers specified in ITU–T G.657 (bend–insensitive SMF)."
or:
"These dispersion requirements are satisfied by G.652.D fibers specified in ITU–T G.652 (low water peak, dispersion unshifted SMF) and G.657.A fibers specified in ITU–T G.657 (bend–insensitive SMF)."
and change the reference in 1.3 to be for the 2016 version of G.657

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

"These dispersion requirements are satisfied by G.652.D fibers specified in ITU–T G.652 (low water peak, dispersion unshifted SMF) and G.657.A fibers specified in ITU–T G.657 (bend–insensitive SMF)."

and update the reference in 1.3 to be for the 2016 version of G.657

Cl **141**   *SC* **141.10.4.1**   *P* **87**   *L* **24**   # 101

Anslow, Pete   Ciena

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

The PICS proforma tables in 141.10.4.1 do not have the appropriate entries in the "Support" column.
Same issue in 141.10.4.42 (OM10), 142.5.4, 142.5.5, 143.5.4.2, 144.5.4.1, 144.5.4.2, 144.5.4.4, 144.5.4.5

SuggestedRemedy

In 149.11.4.1, 141.10.4.42 (OM10), 142.5.4, 142.5.5, 143.5.4.2, 144.5.4.1, 144.5.4.2, 144.5.4.4, 144.5.4.5 for items with status of:
"M" change the Support entry to "Yes [ ]"
"O" change the Support entry to "Yes [ ] No [ ]"
"Something:M" change the Support entry to "Yes [ ] N/A [ ]"
"Something:O" change the Support entry to "Yes [ ] No [ ] N/A [ ]"
"O.Number" change the Support entry to "Yes [ ] No [ ]"
"O/Number" change the Support entry to "Yes [ ] No [ ]"

Response   *Response Status* **C**

ACCEPT.

Cl **141**   *SC* **141.10.4.42**   *P* **101**   *L* **43**   # 102

Anslow, Pete   Ciena

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

PICS items begin with a "*" when they are referenced by another PICS item in the Status column. "OM10" does not appear in any other Item, so should not begin with a "*"

SuggestedRemedy

Change "*OM10" to "OM10"

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142**   *P* **103**   *L* **0**   # 290

Wienckowski, Natalie   General Motors

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

There are change bars on the header and footer that should not be there.

SuggestedRemedy

Remove change bars on pages 103 through 179

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **142**   *SC* **142**   Page 36 of 103   9/17/2019 11:11:42 AM

Cl **142**   *SC* **142.1**   *P* **103**   *L* **19**   # 289

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 25.78125
To: 25.781 25
Also on P107 L27, P107 L31, P109 L41, P138 L17, P138 L18,

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.1**   *P* **105**   *L* **1**   # 371

Dawe, Piers   Mellanox

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

Per style manual "WGs should create their figures using programs that create vector output".

SuggestedRemedy

Import the figure a different way, or draw it in Frame. Same for figs 142-5 to 9, 13 to 16 and 18, 143-1 to 9, 12, 13, 15 and 16, 144-3 to 18, 20 to 29, 31 to 34, and 142A-1.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #98

Cl **142**   *SC* **142.1**   *P* **105**   *L* **1**   # 267

Kramer, Glen   Broadcom

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

1) BER Monotor block is missing in Figure 142-2.

2) The PCS Synchronization and Receive Process shall be titled simply PCS Synchronizer Process.

3) The receve and transmit paths need to be labelled.

4) The bidirectional arrows going to 64B/66B encoder, scrambler, and transcoder are confusing. Each of these functions provides output different than its input. Two separate arrows make it more accurate.

SuggestedRemedy

Update the figure 142-2 as shown in kramer_3ca_3_0719.pdf

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.1.1.1**   *P* **103**   *L* **29**   # 490

Law, David   Hewlett Packard Enterprise

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

There is no operator precedence defined in subclause 142.1.1.1 'State diagrams' or the referenced subclause 21.5. It is therefore unclear if an equations such as ClkXfr AND ParityLeft > 0 used on the transition from the OUTPUT_PARITY_PLACEHOLDERS state back to the OUTPUT_PARITY_PLACEHOLDERS state in Figure 142–11 'PCS Framer Process State Diagram' means (ClkXfr AND ParityLeft) > 0 or ClkXfr AND (ParityLeft > 0).

SuggestedRemedy

Add brackets as necessary to clarify the order used to evaluate state diagram transition conditions.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Set explicitly the order of precedence, per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_6_0719.pdf

---

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 37 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.1.1.1**   9/17/2019 11:11:42 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.1.1.1**   *P* **103**   *L* **34**   # 491

Law, David   Hewlett Packard Enterprise

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

Subclause 142.1.1.1 'State diagrams' states that 'The notation used in the state diagrams follows the conventions in 21.5.' yet Figure 142–10 'PCS Input Process State Diagram', as an example, uses TxPrev = IBI_EQ AND TxNext != IBI_EQ on the transition from NEXT_VECTOR state to the RESET_XBUF state. According to the referenced subclause 21.5 the '*' symbol is used to represent a Boolean AND (see Table 21-1). Other state diagrams within the IEEE P802.3ca correctly follow the 21.5 conventions, such as Figure 144–5 'Control Parser state diagram'.

SuggestedRemedy

Consistently follow the conventions in 21.5 throughout the IEEE P802.3ca draft.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "The notation used in the state diagrams follows the conventions in 21.5.", to "The notation used in the state diagrams follows the conventions in 21.5, with extensions listed in the following subclauses."

Cl **142**   *SC* **142.1.1.3**   *P* **105**   *L* **3**   # 133

Remein, Duane   Futurewei Technologies, Inc.

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

In Figure 142-2 the statement "@ 2x390.625 MHz" (2x) is only correct for 25GMII. The illustration specifies xMII and should therefore be rate agnostic.
Same issue for "@97.65625 MHz" (3x), and "@(25781.25/257)" (3x). Furthermore, while the block sizes are useful they disagree with Figure 142-5.

SuggestedRemedy

Replace the "@xxx" in the figure with notes as follows:
1) For 25GMII rate is 2x390.625 MHz, for XGMII rate is 2x156.25 MHz.
2) For 25 Gb/s PCS rate is 97.65625 MHz, for 10 Gb/s PCS rate is 39.0625 MHz.
3) For 25 Gb/s PCS rate is (25781.25/257) MHz, for 10 Gb/s PCS rate is (10.3125/257) MHz.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

First, these are not rates, these are clock frequencies.

Second, rather then cluttering the entire diagram, it is better to add a single note as follows:
"NOTE-All clock frequencies in this diagram are shown for the nominal MAC data rate of 25 Gb/s. For PCS devices supporting the nominal MAC data rate of 10 Gb/s, all clock frequencies are scaled down by a multiplicative coefficient 0.4."

Cl **142**   *SC* **142.1.1.3**   *P* **105**   *L* **16**   # 134

Remein, Duane   Futurewei Technologies, Inc.

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

Misalignment between Fig 142-2, 142-5 and text. Mostly in block sizes transferred between major blocks/fifos.

SuggestedRemedy

Add a note to the figure "Note: block sizes exclude control bits passed between the PCS Input Process, PCS Framer Process and PCS Transmit Process that are not sent to the PMA.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Under Figure 142-5, add the following note: "NOTE-Figure 142-5 only shows the bits that are being transmitted and does not show the bit that is added and removed within PCS for control purposes."

Cl **142**   *SC* **142.1.1.3**   *P* **105**   *L* **42**   # 372

Dawe, Piers   Mellanox

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

"data_vector<m:n> accesses bits n through m inclusively. The nth bit is received earlier than the mth bit.": this is too perverse. Isn't the something.7:0 style that we see in e.g. Clause 45 because the big end is "first"?

SuggestedRemedy

Try not to write it more weird than Ethernet bit ordering already is

Response   *Response Status* **C**

REJECT.

The Task Force believes this text clarifies the vector notation and it is useful for a reader. The commenter is invited to resubmit this comment with a more specific remedy.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.1.1.3**

Page 38 of 103
9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.1.1.3**   *P* **105**   *L* **45**   # 373

Dawe, Piers   Mellanox

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

This says "Refer to 3.1 for the conventions on bit ordering." 3.1 itself doesn't help, 3.1.1 shows LSB first, specifically for the MAC.

SuggestedRemedy

What is this trying to tell us in the context of a PCS, not a MAC?

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The specific text "Refer to 3.1 for the conventions on bit ordering" should say 3.1.1 instead of 3.1, and it should be part of bullet b, not a separate paragraph. This text is intended to clarify that when a vector is treated as a numerical value, bit n represents a bit with lower significance than bit m.

The TF has decided to combine all conventions used in .3ca into a single subclause and reference this subclause from other .3ca clauses, rather than duplicating identical conventions in different clauses. Since vector notations are used throughout multiple clauses, it is made part of this subclause and we feel that referencing subclause 3.1.1 is appropriate.

Cl **142**   *SC* **142.1.1.4**   *P* **105**   *L* **51**   # 30

Hajduczenia, Marek   Charter Communications

Comment Type   **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "straightforward and can be replaced by addition" with "straightforward and may be replaced by addition"

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.1.1.4**   *P* **106**   *L* **1**   # 494

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status* **R**   *post-deadline*

Is there a reason to create a separate set of "State diagram operators"? Clause 1.2.1 lists "State diagram conventions", where some of the operators are defined. If additions were made, state diagrams could reference a consistent definition across the standard - at least moving forward.

SuggestedRemedy

Merge new operators into a Clause 1.2.1. Reference this clause.

Response   *Response Status* **C**

REJECT.

The primary problems with existing definitions is that they are inconsistent and also distributed across multiple clauses, building a confusing lattice of overlapping requirements associated with state diagram conventions. Rather than rely on that, the Task Force decided to clean the conventions up and make them non-ambiguous.

It is not possible to go and retroactively fix the problem, primarily because of the number of legacy clauses that would be affected in the process. Such a task would be best handled by the Maintenance Task Force.

Cl **142**   *SC* **142.1.1.4**   *P* **106**   *L* **31**   # 493

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status* **A**   *post-deadline; bucket*

Decrement operator has no apparent space between first "-' and second "-".

SuggestedRemedy

Use a dash character or font with a break between characters.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.1.1.5**   *P* **107**   *L* **6**   # 374

Dawe, Piers   Mellanox

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

in this standard

SuggestedRemedy

in this clause

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 39 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.1.1.5**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.1.2**   *P* **107**   *L* **27**   # 375

Dawe, Piers   Mellanox

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

As this is the first use or EQT in this clause, and this is the first project to use EQT

SuggestedRemedy

Say what it is, e.g. with a cross-reference.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add a cross reference to 1.4.245b.

Cl **142**   *SC* **142.1.2**   *P* **107**   *L* **34**   # 135

Remein, Duane   Futurewei Technologies, Inc.

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

"aforementioned delay limits" should be "aforementioned delay variation limits"

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.1.3**   *P* **107**   *L* **28**   # 291

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 10.3125
To: 10.312 5
Also on P107 L32, P109 L42, P138 L18, P138 L19,

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.1.3**   *P* **108**   *L* **4**   # 136

Remein, Duane   Futurewei Technologies, Inc.

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

This text is duplicated 4-5 lines above.

SuggestedRemedy

Strike the duplicate text

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.1.3.1**   *P* **109**   *L* **24**   # 449

Nicholl, Shawn   Xilinx

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

This sub-clause uses the notation 0x1-(55)32. Is this sub-script notation defined in the standard? Is it used anywhere else?

SuggestedRemedy

Possible remedies:
1) Make a comment (similar to 49.2.4.1 Notation conventions) that "The subscript in the above sentence means …"
2) Simply write out the whole value without short-hand notation

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #488

Cl **142**   *SC* **142.1.3.1**   *P* **109**   *L* **24**   # 376

Dawe, Piers   Mellanox

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

0x1-(55)32 - eh?

SuggestedRemedy

Is that 55 in base 32, or 55 repeated 32 times, or what? Be clearer.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #488

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 40 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.1.3.1**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.1.3.1**   *P* **109**   *L* **28**   # 450

Nicholl, Shawn   Xilinx

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

Use of hyphens in a hex value is somewhat rare in the standard (101.3.3.1.6 contains some value that include hypens; 103.3.5.1 also). Most of the time hex values are written without hyphens. Consider to remove the hyphens.

SuggestedRemedy

Possible remedies:
1) Replace "0x1-BF-40-18-…." with "0x1BF4018…."
2) Create a table like "Table 119-2 - 400GBASE-R alignment marker encodings" that contains the values, delimited with commas

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #488

Cl **142**   *SC* **142.2**   *P* **109**   *L* **39**   # 377

Dawe, Piers   Mellanox

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

As 802.3 uses "b/s" for the payload rate (MAC data rate), saying "25.78125 Gb/s rate" is misleading.

SuggestedRemedy

25.78125 GBd Several similar instances.

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Change all instances of "25.78125 Gb/s" to "25.78125 GBd"

Change all instances of "10.3125 Gb/s" to "10.3125 GBd"

Cl **142**   *SC* **142.2**   *P* **111**   *L* **1**   # 452

Nicholl, Shawn   Xilinx

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

Blurry diagrams. "Figure 142-5 Transmit bit ordering" is blurry. "Figure 142-6 FEC encoder" is blurry. "Figure 142-9 Omega Network 256 Interconnection Network" is blurry. Other diagrams are blurry.

SuggestedRemedy

Generate new figures that are crisp.

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #98

Cl **142**   *SC* **142.2.1**   *P* **110**   *L* **7**   # 137

Remein, Duane   Futurewei Technologies, Inc.

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

While this is a nice nostalgic carry-over from the previous century the term "tx_raw" is not defined in the clause and really adds no value.

SuggestedRemedy

Strike both instance of "tx_raw" (here and on pg 124 line 42).

Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **142**   *SC* **142.2.1**   Page 41 of 103
9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.2.1**   *P* **110**   *L* **24**   # 138

Remein, Duane   Futurewei Technologies, Inc.

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

We have "Inter-Burst Idle", "inter-burst idle", and "inter-burst idle pattern", "inter-burst idle EQ (IBI_EQ)". I believe these are almost, but not quite, same thing.

SuggestedRemedy

Make the following changes:
Pg 110 line 24 - OK as is, "Inter-Burst Idle" is defined as a control code denoted as /IBI/
Pg 121 line 32 - change "The IBI258 constant holds the value of the inter-burst idle pattern" to "The IBI258 constant holds the value equivalent to the Inter-Burst Idle pattern"
Pg 124 line 53 - change "inter-burst idle (IBI)" to "IBI258 (Inter-Burst Idle pattern equivalent)"
Pg 161 line 50 - change "this channel generates only inter-burst idles towards the xMII." to "the MCRS generates only IBI_EQ for this channel towards the xMII."
Pg 163 all lines OK as is.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment type changed to "T"

Terminology:

inter-burst idle – a general reference to a region or time interval between bursts. In MCRS, the inter-burst idle region is filled with IBI_EQs. In PCS, this region is filled with IBI258 blocks.

Inter-Burst Idle – the name of a xGMII control character, as defined in Table 144-2.
/IBI/ -shorthand notation for Inter-Burst Idle control character
IBI_EQ – an EQ that represents an inter-burst idle

Changes to the draft:

Pg 110 line 24 - OK as is, no changes needed
Pg 121 line 32 -- Use the following definition instead:
        "The IBI258 constant represents an inter-burst idle block that is generated by the PCS Framer Process in the absence of any burst framing blocks, data blocks, or FEC Parity blocks."

Pg 124 line 53 -- Change "The PCS Framer Process monitors data from the InputFifo and transfers it to the TxFifo, inserting inter-burst idle (IBI), SyncPattern, parity placeholders (PAR_PLACEHLDR), and EBD258 as appropriate." to read "The PCS Framer Process monitors data from the InputFifo and transfers it to the TxFifo, inserting inter-burst idle blocks (IBI258), SyncPattern, parity placeholders (PAR_PLACEHLDR), and EBD258 as appropriate."
Replace two instances of IBI on page 125 with IBI258. Make sure IBI258 and EBD258 is

italicized.

Pg 161 line 50 -- Use the following text:
"The channel transmits the envelopes or inter-envelope idle EQs (IEI_EQ values) in the absence of envelopes. When set to false, transmission on channel ch is prohibited and this channel generates only inter-burst idle EQs (IBI_EQ values) towards the xMII."

Pg 163 line 2 -- Italicize IEI_EQ and IBI_EQ, no other changes needed.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**   Page 42 of 103
SC **142.2.1**   9/17/2019 11:11:43 AM

Cl **142** *SC* **142.2.2** *P* **110** *L* **36** # 268

Kramer, Glen   Broadcom

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

The following statement is ambiguous:
"In the OLT, at the beginning of each burst, the descrambler is initialized with the lower 58 bits of the unscrambled value of IBI_EQ, i.e., bits s[0] through s[57] as shown in Figure 142–14 (see 143.3.3.3)."

This specific reference to IBI_EQ (143.3.3.3) points to 72-bit version (Value: 0x0A-0A-0A-0A-0A-0A-0A-0A-FF), and so, the low 58 bits would be 0x2-0A-0A-0A-0A-0A-0A-FF

However, the original intention was to use the 64B/66B encoded value of IBI_EQ, because the scrambler ever sees only the 64b/66b encoded blocks. So, if we assume that the seed should be the 64B/66B encoded IBI_EQ, then it would have the following value:
0x2-85-42-A1-50-28-14-1E
(full 64b/66b Encoded IEI_EQ: 0x0A-85-42-A1-50-28-14-1E)

In either case, it is just an unnecessarily indirect definition for what needs to be a pre-defined constant. We shall clarify the value to be used and simply specify a 58-bit seed constant.

SuggestedRemedy

Use the following text on page 110, lines 35-36:
"In the ONU, at the beginning of each burst, the scrambler is initialized with the value of 0x3-FF-FF-FF-FF-FF-FF-FF, i.e., each of the bits s0 through s57 is set to 1 (see Figure 49–8)."

Use the following text on page 128, lines 34-35:
"In the OLT, at the beginning of each burst, the descrambler is initialized with the value of 0x3-FF-FF-FF-FF-FF-FF-FF, i.e., each of the bits s0 through s57 is set to 1 (see Figure 49–8)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use the following text on page 110, lines 35-36:
"In the ONU, at the beginning of each burst, the scrambler is initialized with the value of 0x3-(FF)$_7$, i.e., each of the bits S0 through S57 is set to 1 (see Figure 49–8)."

Use the following text on page 128, lines 34-35:
"In the OLT, at the beginning of each burst, the descrambler is initialized with the value of 0x3-(FF)$_7$, i.e., each of the bits S0 through S57 is set to 1 (see Figure 49–8)"

Cl **142** *SC* **142.2.3** *P* **110** *L* **40** # 451

Nicholl, Shawn   Xilinx

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

Consider to clarify that the four input blocks to the transcoder are already scrambled.

SuggestedRemedy

Replace "four consecutive 64B/66B" with "four consecutive scrambled 64B/66B"

Response *Response Status* **C**

ACCEPT.

This is a technical comment. Type changed to "T"

Cl **142** *SC* **142.2.4.1** *P* **112** *L* **1** # 139

Remein, Duane   Futurewei Technologies, Inc.

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

In most cases we use "parity-check" (with a hyphen). Here and in a few other locations we omit the hyphen. We should be consistent.

SuggestedRemedy

Change the following instances of "parity check" with "parity-check":
pg line
112 1
114 48
115 1
116 12

Response *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.2.4.1** *P* **112** *L* **3** # 292

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: = 3072 × 17664
To: = 3 072 × 17 664

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **142** Page 43 of 103
SC **142.2.4.1** 9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.2.4.1**   *P* **112**   *L* **4**   # 140

Remein, Duane   Futurewei Technologies, Inc.

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

The "H" in "… matrix H composed by a …" and "Ai,j" in "256 sub-matrices Ai,j:" should be in italics. Same for other occurrences in these terms, "ai,j", "(I,j)", "Hc", "Z", "K", "Kmax", "S", "P", "M", "N", "Nmax", "R", "Rmax", "u", "u1", "u2", "uK", "p", "p1", "p2", "pM", "T", "c", "i", and "k" (in K+1) scatter throughout the text and Figure 142-6 in Cl 142.2.4 and it's sub-clauses. Also in Figure 142–13—FEC decoder.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.4.1**   *P* **112**   *L* **13**   # 31

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "The parity-check matrix can be described in its compact form" to "The parity-check matrix is described in its compact form"

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.4.1**   *P* **114**   *L* **39**   # 442

Powell, William   Nokia

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

Replace this note:
"Editor's Note (to be removed prior to publication): Link to the CSV file containing machine readable files to be added here prior to publication."

SuggestedRemedy

with:
"Editor's Note - Later move this file to: http://standards.ieee.org/downloads/802.3/ "

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change text of the editorial note to
Editor's Note (to be removed prior to publication): At publication time, all machine readable files will be
published under http://standards.ieee.org/downloads/802.3/ in a machine readable format.
The aforementioned files are accessible right now at:
http://www.ieee802.org/3/ca/index.shtml

The same text to be used on page 249, line 50, and page 118, line 1

Cl **142**   *SC* **142.2.4.1**   *P* **114**   *L* **39**   # 276

Marris, Arthur   Cadence Design Systems

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

Delete "Editor's Note (to be removed prior to publication): Link to the CSV file containing machine readable files to be added here prior to publication."

SuggestedRemedy

Delete "Editor's Note (to be removed prior to publication): Link to the CSV file containing machine readable files to be added here prior to publication."

Similar problem on page 249 line 51.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.2.4.1**

Page 44 of 103
9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.2.4.2**   *P***114**   *L***49**   # 293

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 14592
To: 14 592
Also on P114 L54

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.2.4.2**   *P***114**   *L***51**   # 294

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 17664
To: 17 664

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.2.4.2**   *P***114**   *L***53**   # 295

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 14392
To: 14 392

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.2.4.2**   *P***115**   *L***5**   # 296

Wienckowski, Natalie   General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 16962
To: 16 962

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **142**   *SC* **142.2.4.2**   *P***116**   *L***5**   # 141

Remein, Duane   Futurewei Technologies, Inc.

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

What does (Pi to the -1 power)"info(u*)" and (Pi)parity(p")" mean?

SuggestedRemedy

Add a definition of this term. Unfortunately I have no idea what such a definition would be so I can offer no informed suggestions

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #379.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 45 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.4.2**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.4.2**   *P* **116**   *L* **5**   # 379

Dawe, Piers   Mellanox

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

I don't know what you mean by pi-1info. Similar problem at line 9.

SuggestedRemedy

Explain, or better, use more familiar notation

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

append the following sentence to the end of the paragraph on Page 116, Lines 3-5 : "pi(-1)_{info} represents the de-interleaver mapping of information bits that permutes u* to u''." and also append the following sentence to the end of the paragraph on Page 116, Lines 6-8: "pi_{parity} represents the interleaver mapping of parity bits that permutes p'' to p*."

Cl **142**   *SC* **142.2.4.2**   *P* **116**   *L* **7**   # 380

Dawe, Piers   Mellanox

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

What is then interleaved? p'' or H?

SuggestedRemedy

?

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

replace "matrix H, which is then" with "matrix H, and p'' is then"

Cl **142**   *SC* **142.2.4.2**   *P* **116**   *L* **16**   # 142

Remein, Duane   Futurewei Technologies, Inc.

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

This seems a bit confusing "the M-bit FEC parity bits"

SuggestedRemedy

Change to "the M FEC parity bits" (M in italics)

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

"M bits of FEC parity" is better

Cl **142**   *SC* **142.2.4.2**   *P* **116**   *L* **18**   # 381

Dawe, Piers   Mellanox

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

is comprised of

SuggestedRemedy

comprises
consists of
contains
is composed of
or possibly other alternatives

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use "comprises"

Cl **142**   *SC* **142.2.4.3**   *P* **116**   *L* **24**   # 143

Remein, Duane   Futurewei Technologies, Inc.

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

It strikes me a odd that the De-interleaver should refer to encoding and the Interleaver to decoding as stated in the following:
"For the purposes here: "De-interleaver" refers to the mapping from transmitted sequence to encoding/decoding sequence (including user and parity).   ...   "Interleaver" refers to the mapping from encoding/decoding sequence to transmitted sequence."

SuggestedRemedy

Change to:
"For the purposes here: "De-interleaver" refers to the mapping from transmitted sequence to decoding sequence (including user and parity).   ...   "Interleaver" refers to the mapping from encoding sequence to transmitted sequence."

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Comment type changed to "T"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 46 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.4.3**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.4.3**   *P* **116**   *L* **25**   # 382

Dawe, Piers   Mellanox

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

I don't know what you mean by "Omega networks".

SuggestedRemedy

Define what you are talking about. If it doesn't matter, don't mention them.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Add an informative reference to

Lawrie, Duncan H. (December 1975). "Access and Alignment of Data in an Array
Processor". IEEE Transactions on Computers. C-24 (12): 1145–55.
https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1672750

at the first instance of Omega network used as a term

Cl **142**   *SC* **142.2.4.3**   *P* **116**   *L* **29**   # 144

Remein, Duane   Futurewei Technologies, Inc.

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

We seem to have a mix of "De-interleaver", "de-interleaver", "Interleaver", and "interleaver".

SuggestedRemedy

Be consistent. Change all to initial Caps

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.4.3**   *P* **117**   *L* **48**   # 383

Dawe, Piers   Mellanox

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

I don't know what you mean this partial square bracket; it is not explained here or in 1.2
Notation

SuggestedRemedy

Use accessible notation instead: rounddown() or whatever is meant.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add footnote under the formula, as follows: (copied from 77.2.2.4)

NOTE—The notation [] represents a floor function, which returns the value of its argument
x rounded down to the nearest integer.

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 481

Slavick, Jeff   Broadcom

Comment Type **TR**   *Comment Status* **A**   *machine-readable-files*

Editor's note states it should have been removed before WG ballot with URL

SuggestedRemedy

Replace with proper URL

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 443

Powell, William   Nokia

Comment Type **T**   *Comment Status* **A**   *machine-readable-files*

Replace this note:
"Editor's Note (to be removed prior to publication): Before entering WG ballot, content of
individual seed tables will be published under http://standards.ieee.org/downloads/802.3/ in
a machine readable
format"

SuggestedRemedy

with:
"Individual seed tables can be found at:
http://www.ieee802.org/3/ca/private/xxx"
[NEED SEED TABLES PLACED AT LINK ABOVE]
[and later move it to http://standards.ieee.org/downloads/802.3/]

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 47 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.4.3**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 277

Marris, Arthur   Cadence Design Systems

Comment Type **TR**   *Comment Status* **A**   *machine-readable-files*

Address the following:
"Editor's Note (to be removed prior to publication): Before entering WG ballot, content of
individual seed tables will be published under http://standards.ieee.org/downloads/802.3/ in
a machine readable format"

SuggestedRemedy

Address the following:
"Editor's Note (to be removed prior to publication): Before entering WG ballot, content of
individual seed tables will be published under http://standards.ieee.org/downloads/802.3/ in
a machine readable format"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 111

Lusted, Kent   Intel

Comment Type **TR**   *Comment Status* **A**   *machine-readable-files*

The editors note states that the machine readable form of the seed tables are posted at
https://standards.ieee.org/downloads.html. However, the files for 802.3ca are not posted
as of 30 May 2019

SuggestedRemedy

Post the seed files and remove the editors note.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 103

Anslow, Pete   Ciena

Comment Type **E**   *Comment Status* **A**   *machine-readable-files*

The editor's note says that "Before entering WG ballot, content of individual seed tables will
be published under http://standards.ieee.org/downloads/802.3/ in a machine readable
format"
However, the draft is in WG ballot and the location
http://standards.ieee.org/downloads/802.3/ is where files for published standards reside.

SuggestedRemedy

Publish the files on the P802.3ca web page and include the location with a note and
Editor's note equivalent to those on Page 114 lines 36 to 41

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 145

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **TR**   *Comment Status* **A**   *machine-readable-files*

The information per the Editorial note has not been published at the advertised URL.
Liar, Liar pants on fire!

SuggestedRemedy

Post the seed tables at the advertised URL or Post the seed table at some other URL
updating the Ed Note appropriately or change "Before entering WG ballot" to "Prior to
publication".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 48 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.4.3**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **1**   # 384

Dawe, Piers   Mellanox

Comment Type **TR**   *Comment Status* **A**   *machine-readable-files*

This says "Before entering WG ballot, content of individual seed tables will be published under http://standards.ieee.org/downloads/802.3/ in a machine readable format". But I don't see them there.

SuggestedRemedy

Sort it out.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442

Cl **142**   *SC* **142.2.4.3**   *P* **118**   *L* **35**   # 453

Nicholl, Shawn   Xilinx

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

Are the hyphen's necessary in Tables 142-5, 142-6? Consider to remove them to be more consistent with other tables in the standard (eg. Table 52-20, Table 115-1, Table 120-2)

SuggestedRemedy

Remove the hyphens from values in the tables 142-5, 142-6.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #488

Cl **142**   *SC* **142.2.5**   *P* **120**   *L* **52**   # 146

Remein, Duane   Futurewei Technologies, Inc.

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

Here we state "bit 257 conveying the origin of the block to be either the PCS Input Process (bit 257 is equal to 1) or the PCS Framer Process (bit 257 is equal to 0)0). The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled."
Elsewhere we state (pg/ln)
121/51 "The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled."
123/22 "a binary one indicating the 257-bit block originated in the PCS Input Process"
124/46 "A single bit indicating the accompanying 256B/257B block has been scrambled is appended to the block which is then stored in the InputFifo."

We should be consistent in what this bit indicates.

SuggestedRemedy

At 120/52 (pg/ln) change:
"Various variables and buffers in the PCS are structured as 258-bit wide blocks with bits 0 through 256 holding one line-coding unit (a 257-bit block) and bit 257 conveying the origin of the block to be either the PCS Input Process (bit 257 is equal to 1) or the PCS Framer Process (bit 257 is equal to 0)0). The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled." to:
"Various variables and buffers in the PCS are structured as 258-bit wide blocks. Bits 0 through 256 of these 258-bit block hold one line-coding unit (a 257-bit block) and bit 257 indicates the 257-bit block has been transcoded and scrambled (bit 257 is equal to 1) or that the block has not been transcoded and scrambled (bit 257 is equal to 1). The value of bit 257 also implies the origin of the block as being either the PCS Input Process (bit 257 is equal to 1) or the PCS Framer Process (bit 257 is equal to 0)."

At 121/51 change:
"The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled." to:
"The value of bit 257 being one indicates that the 257-bit block has been transcoded and scrambled."

At 123/22 change:
"a binary one indicating the 257-bit block originated in the PCS Input Process" to:
"a binary one indicating the 257-bit block has or has not been transcoded and scrambled."

At 124/46 change:
"A single bit indicating the accompanying 256B/257B block has been scrambled ..." to:
"A single bit indicating the accompanying 256B/257B block has been transcoded and scrambled ..."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

At 120/52 (pg/ln) change:

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 49 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.5**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

"Various variables and buffers in the PCS are structured as 258-bit wide blocks with bits 0 through 256 holding one line-coding unit (a 257-bit block) and bit 257 conveying the origin of the block to be either the PCS Input Process (bit 257 is equal to 1) or the PCS Framer Process (bit 257 is equal to 0)0). The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled." to:
"Various variables and buffers in the PCS are structured as 258-bit wide blocks. Bits 0 through 256 of each 258-bit block hold one line-coding unit (a 257-bit block) and bit 257 indicates the 257-bit block has been scrambled and transcoded (bit 257 is equal to 1) or that the block has not been scrambled and transcoded (bit 257 is equal to 0). The value of bit 257 also implies the origin of the block as being either the PCS Input Process (bit 257 is equal to 1) or the PCS Framer Process (bit 257 is equal to 0)."

At 121/51 change:
"The value of bit 257 being one implies that the 257-bit block has been transcoded and scrambled." to:
"The value of bit 257 equal to 1 indicates that the 257-bit block has been scrambled and transcoded."

At 123/22 change:
"a binary one indicating the 257-bit block originated in the PCS Input Process" to:
"a binary 1 indicating the 257-bit block has been scrambled and transcoded."

At 124/46 change:
"A single bit indicating the accompanying 256B/257B block has been scrambled ..." to:
"A single bit indicating the accompanying 256B/257B block has been scrambled and transcoded ..."

| *Cl* **142** | *SC* **142.2.5.1** | *P* **121** | *L* **14** | # 454 |

Nicholl, Shawn   Xilinx

Comment Type **E** *Comment Status* **R**

Value is set to "0x3-CA". Seems like an unconventional use of hyphen.

SuggestedRemedy

Replace "0x3-CA" with "0x3CA"

Response   *Response Status* **C**

REJECT.

See comment #488

| *Cl* **142** | *SC* **142.2.5.1** | *P* **121** | *L* **30** | # 488 |

Law, David   Hewlett Packard Enterprise

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

The meaning of '0x0-(0A)subscript32' is unclear. According to IEEE Std 802.3-2018 subclause 1.2.5 'Hexadecimal notation' 'Numerical values designated by the 0x prefix indicate a hexadecimal interpretation ...' and 'Numerical values designated with a 16 subscript indicate a hexadecimal interpretation of the corresponding number.'. This therefore seems to imply that the 32 subscript indicates a base 32 number, which I doubt is correct. Instead I suspect that this is meant to indicate 0x0A repeated 32 times, but I don't see where that convention is defined.

SuggestedRemedy

Specify the meaning of '0x0-(0A)subscript32'.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Renumber the existing section 142.1.1.2 into 142.1.1.3 and insert the following new section as shown in
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_5_0719.pdf

---

| *Cl* **142** | *SC* **142.2.5.1** | *P* **121** | *L* **33** | # 455 |

Nicholl, Shawn   Xilinx

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

Use of subscript of 32 for the value of IBI258 and also PAR_PLACEHLDR. Similar to previous comment, need to define/explain the notation.

SuggestedRemedy

Possible remedies:
1) Make a comment (similar to 49.2.4.1 Notation conventions) that "The subscript in the above sentence means …"
2) Simply write out the whole value without short-hand notation

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #488

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142** Page 50 of 103
SC **142.2.5.1** 9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.2.5.2**   *P* **122**   *L* **26**   # 330

Laubach, Mark   Broadcom

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

Missing crossref formating for "142.1.1.5". Same for line 41.

SuggestedRemedy

Make them into proper cross references.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.5.2**   *P* **123**   *L* **36**   # 331

Laubach, Mark   Broadcom

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

Missing period after "TxFifo"

SuggestedRemedy

Add the period at the end of the sentence.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.5.3**   *P* **123**   *L* **3**   # 147

Remein, Duane   Futurewei Technologies, Inc.

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

It would be a kindness to the reader to inform them why "The MSB of each cell is set to zero".

SuggestedRemedy

Add to the end of the sentence " indicating the 257-bit block has or has not been transcoded and scrambled."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add to the end of the sentence " indicating the 257-bit block has not been scrambled and transcoded."

Cl **142**   *SC* **142.2.5.3**   *P* **124**   *L* **11**   # 148

Remein, Duane   Futurewei Technologies, Inc.

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

Is the "v" in "of a 72-bit block v" in italics? It doesn't appear to be.
Same issue at line 14, 22, & 34 ("a[4]" in this case).

SuggestedRemedy

Ensure the "v" is italicized.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.5.4.1**   *P* **126**   *L* **36**   # 104

Anslow, Pete   Ciena

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

The PROCESS_DATA state contains 4 instances of "<=" that should be the "Assignment operator" as per the first two rows

SuggestedRemedy

In the PROCESS_DATA state change 4 instances of "<=" to the "Assignment operator" as per the first two rows

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.2.5.4.2**   *P* **125**   *L* **5**   # 332

Laubach, Mark   Broadcom

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

The hypen for the line break looks awkward.

SuggestedRemedy

Suggest making PAR_PLACEHOLDER unbreakable.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 51 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.2.5.4.2**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.2.5.4.3**   *P* **125**   *L* **17**   # 149

Remein, Duane   Futurewei Technologies, Inc.

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

Missing "the", "a", or "an"

SuggestedRemedy

Change
"not transmitting, laser is turned on" to
"not transmitting, the laser is turned on"

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3**   *P* **125**   *L* **37**   # 333

Laubach, Mark   Broadcom

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

The first of the hypen-bullet lines ends in a period, the other two do not (lines 38 and 39).

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line ending for all three lines.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "." at the end of the first line.

Cl **142**   *SC* **142.3**   *P* **125**   *L* **38**   # 151

Remein, Duane   Futurewei Technologies, Inc.

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

No such beast in Figure 142-2 "PCS Synchronizer Process"

SuggestedRemedy

Change Figure 142-2 block title from
"PCS Synchronization & Receive Process" to
"PCS Synchronizer Process"

This is deemed easier than changing the text to match the figure 17x.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The Figure 142-2 is updated per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_3_0719.pdf (see
comment #267)

Cl **142**   *SC* **142.3**   *P* **125**   *L* **38**   # 150

Remein, Duane   Futurewei Technologies, Inc.

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

No such beast in Figure 142-2 "PCS BER Monitor Process (see 142.3.5.6)".

SuggestedRemedy

Change
"— PCS BER Monitor Process (see 142.3.5.6)" to
"— FEC Decoder (see 142.3.1)"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

The Figure 142-2 is updated per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_3_0719.pdf (see
comment #267)

Cl **142**   *SC* **142.3.1**   *P* **125**   *L* **43**   # 152

Remein, Duane   Futurewei Technologies, Inc.

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

Does the FEC decoder really interleave?

SuggestedRemedy

At line 43 Change
"interleaver/de-interleaver data path." to
"de-interleaver data path."

Change title of section 142.3.1.1 from:
"Receive Interleaving" to
"Receive De-interleaving"

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Yes, it does interleave. See the referenced picture.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 52 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.3.1**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.3.1**   *P* **126**   *L* **20**   # 484

Slavick, Jeff   Broadcom

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

In Figure 142-10 the exit from NEXT_VECTOR has a conflict in exit criteria.   If TxPREV is
IBI_EQ and TxNext becomes RATE_ADJ_EQ both the criteria to take the path to
WAIT_FOR_VECTOR and RESET_XBUF would be met. So which path should you take?

SuggestedRemedy

Resolve the conflict

Response   *Response Status* **C**

REJECT.

This is a fair observation for the state diagram 142-10 behavior, however such input to the
state diagram is precluded by the higher layer (see MCRS, Figure 143-12). The inter-burst
idles (IBI_EQ) are transmitted when there is no data to transmit. When data finally appears,
the IBI_EQ will be succeeded by data EQ. The first RATE_ADJ_EQ will only appear after
224 data EQs (i.e., after one FEC codeword payload). RATE_ADJ_EQ can never directly
follow the IBI_EQ.

Cl **142**   *SC* **142.3.1.1**   *P* **126**   *L* **1**   # 456

Nicholl, Shawn   Xilinx

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

Font used in state diagrams appears different from most other state diagrams in the
standard. This includes "Figure 142-10 PCS Input Process State Diagram", "Figure 142-11
PCS Framer Process State Diagram" and others.

SuggestedRemedy

Update the state diagrams to look more like other state diagrams in the standard

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #98

Cl **142**   *SC* **142.3.1.1**   *P* **126**   *L* **2**   # 486

Law, David   Hewlett Packard Enterprise

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

The variable BEGIN is not defined.

SuggestedRemedy

Add the following variable definition to subclause 142.2.5.2.

BEGIN
TYPE: Boolean
Description: This variable is used when initiating operation of the functional block state
diagram. It is set to TRUE following initialization and every reset.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following variable definition to subclause 142.2.5.2. In every "Variable" section, add
entry for BEGIN and reference 142.2.5.2.

BEGIN
TYPE: Boolean
Description: This variable is used when initiating operation of the functional block state
diagram. It is set to true following initialization and every reset, and it is reset to false on
read.

Cl **142**   *SC* **142.3.1.1**   *P* **126**   *L* **36**   # 487

Law, David   Hewlett Packard Enterprise

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

The Assignment operator character defined in Table 21-1 should be used rather than the
two separate symbols '<' and '='.

SuggestedRemedy

Replace the four instances of '<=' with the Assignment operator in the PROCESS_DATA
state in Figure 142-10.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 53 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.3.1.1**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.3.1.1**   *P* **126**   *L* **36**   # 495

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **A**   post-deadline; bucket

Four incorrect symbols are used.

SuggestedRemedy

Use the "assignment operator" symbol instead of "<=" in the following 3 assignments:
xBuffer[0] <= Scramble(xBuffer[0])
xBuffer[1] <= Scramble(xBuffer[1])
xBuffer[2] <= Scramble(xBuffer[2])
xBuffer[3] <= Scramble(xBuffer[3])

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.2**   *P* **126**   *L* **49**   # 457

Nicholl, Shawn   Xilinx

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

Consider to clarify that the four output blocks from the transcoder are still scrambled.

SuggestedRemedy

Replace "four consecutive 66-bit" with "four consecutive scrambled 66-bit"

Response   *Response Status* **C**

ACCEPT.

This is a technical comment. Changed type to "T"

Cl **142**   *SC* **142.3.3**   *P* **128**   *L* **34**   # 153

Remein, Duane   Futurewei Technologies, Inc.

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

This statement is confusing at best and possibly misleading: "In the OLT, at the beginning of each burst, the descrambler is initialized with the lower 58 bits of the unscrambled value of IBI_EQ, i.e., bits s[0] through s[57] as shown in Figure 142–14 (see 143.3.3.3)."
First off there are no s[x] bits in the Fig 142-14. The S[x] _Bytes_ shown in Fig 142-14 are after the descrambler. The "i.e., i.e., bits s[0] through s[57] ..." if assumed (a bad idea but what is the reader to do) to be the individual bits of S0..S7 implies that the descrambler is initialized with whatever happens to be in the register after receiving SBD. This is unlikely to be correct. IBI_EQ is a clearly defined constant and needs no qualification from Figure 142-14.

SuggestedRemedy

Strike ", i.e., bits s[0] through s[57] as shown in Figure 142–14 "

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #268

Cl **142**   *SC* **142.3.5.1**   *P* **131**   *L* **14**   # 297

Wienckowski, Natalie   General Motors

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

Use a non-breaking space in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual, not a comma.

SuggestedRemedy

Change: 16,962
To: 16 962

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.3.5.1**

Page 54 of 103
9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.3.5.2**   *P* **132**   *L* **14**   # 154

Remein, Duane   Futurewei Technologies, Inc.

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

Do we test FEC CWs or decode them?

SuggestedRemedy

Change (2x in para)
"a new QC-LDPC codeword is available for testing" to
"a new QC-LDPC codeword is available for decoding"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment type changed to "T"

Change (2x in para)
"a new QC-LDPC codeword is available for testing" to
"a new QC-LDPC codeword is available for testing by the BER Monitor Process"

Cl **142**   *SC* **142.3.5.2**   *P* **132**   *L* **38**   # 155

Remein, Duane   Futurewei Technologies, Inc.

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

Well close. MatchCount doesn't track all matches only those before the ONU is in sync

SuggestedRemedy

Change:
"This counter tracks the number of consecutive successful detections of FEC codeword delimiters (FEC_CW_DELIM)." to
"This counter tracks the number of consecutive successful detections of FEC codeword delimiters (FEC_CW_DELIM) while the ONU is not synchronized to the proper 257-bit block boundary."

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.2**   *P* **133**   *L* **2**   # 156

Remein, Duane   Futurewei Technologies, Inc.

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

Persistent-
FecFail crosses the line and shouldn't.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.2**   *P* **133**   *L* **29**   # 157

Remein, Duane   Futurewei Technologies, Inc.

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

This statement is clearly not true (see 142.1.3.1) "Once provisioned, this value does not change and is treated as constant by the state diagram."

SuggestedRemedy

Strike.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.2**   *P* **133**   *L* **35**   # 158

Remein, Duane   Futurewei Technologies, Inc.

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

PMA_SIGNAL.
indication(SIGNAL_OK) crosses the line and shouldn't

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.2**   *P* **134**   *L* **25**   # 386

Dawe, Piers   Mellanox

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

What PMA_UNITDATA.indication primitive?

SuggestedRemedy

I could not find the PMA service interface definition. Add it.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/laubach_3ca_2a_0719.pdf ahead of existing 142.4.1 and renumber existing subclauses accordingly. Update PICS as needed.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 55 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **142.3.5.2**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142**   *SC* **142.3.5.3**   *P* **133**   *L* **51**   # 159

Remein, Duane   Futurewei Technologies, Inc.

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

This is the only instance of "de-coding". There are ~27 instances of decode (or some form of decode).

SuggestedRemedy

Remove the hyphen.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.3**   *P* **134**   *L* **5**   # 358

Hajduczenia, Marek   Charter Communications

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

FecDecode description is a tad cryptic. The FecDecode function to passes one complete FEC codeword cw to the FEC Decoder. The FEC codeword may be full-length or shortened. The codeword length is intrinsic to the parameter cw.
Looking at Figure 142–16, this function is just called, but then I guess it is assumed that it generates the output of OutputFifo since that is what is used as input data stream in Figure 142–18. That relationship is not described anywhere, though.

SuggestedRemedy

To make things simpler to read between state diagrams, it is recommended to make FecDecode function write into OutputFifo explicitly

Option one (preferred), add statement "OutputFifo.Append(FecDecode(RxCwBuf)) in RX_FULL_CW state in Figure 142–16 and Figure 142–15, as well as in state RX_SHORT_CW in Figure 142–15 + Add the following statement at the end of the definition of FecDecode function. "On completion of the FEC decoding operation, the FecDecode function returns a series of 257-bit blocks appended to the OutputFifo."

Option two (less explicit): add only statement in definition of FecDecode function as follows: "On completion of the FEC decoding operation, the FecDecode function returns a series of 257-bit blocks appended to the OutputFifo." - this option still requires a reader to make a connection between two state diagrams via description of the function

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change name of "FecDecode" function to "PassToFecDecoder" in text and SDs.

Cl **142**   *SC* **142.3.5.3**   *P* **134**   *L* **25**   # 160

Remein, Duane   Futurewei Technologies, Inc.

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

PMA_UNITDATA.indication(
rx_code_group<256:0>) crosses the line and shouldn't

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.4**   *P* **134**   *L* **36**   # 334

Laubach, Mark   Broadcom

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

Missing period, end of last sentence of paragrpah.

SuggestedRemedy

Add the period.

Response   *Response Status* **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.4**   *P* **135**   *L* **13**   # 357

Hajduczenia, Marek   Charter Communications

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

PCS_BLK_SZ is not defined right now and it does not seem like we have any .

SuggestedRemedy

Seems the following simple definition in XXX would suffice
PCS_BLK_SZ
Type: unsigned integer
Description: The PCS_BLK_SZ constant holds the size of the PCS data block.
Value: 257

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

PCS_BLK_SZ
Type: unsigned integer
Description: The PCS_BLK_SZ constant holds the size of the PCS data block.
Value: 257
Unit: bits

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **142**   Page 56 of 103
SC **142.3.5.4**   9/17/2019 11:11:43 AM

Cl **142**   *SC* **142.3.5.4**   *P* **135**   *L* **15**   *#* 485

Slavick, Jeff   Broadcom

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

In Figure 141-15 the exit from GET_NEXT_BLOCK has a conflict in exit criteria. If SignalFail and MatchFound are both true which path do you take?

SuggestedRemedy

Change the path to CHECK_CW_LEN to be "!SignalFail AND Matchfound…"

Response   *Response Status*   **U**

REJECT.

It is unnecessary to complicate this transition in the SD, since regardless of which of the two transitions the SD takes, it will end up in the same state.

Cl **142**   *SC* **142.3.5.7**   *P* **136**   *L* **45**   *#* 163

Remein, Duane   Futurewei Technologies, Inc.

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

Missing "the"

SuggestedRemedy

Change "of Output Process" to "of the Output Process"

Response   *Response Status*   **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.7**   *P* **137**   *L* **4**   *#* 164

Remein, Duane   Futurewei Technologies, Inc.

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

Figure needs clean-up; Block divider line overrun block boundaries, connectors often don't touch blocks.

SuggestedRemedy

per comment

Response   *Response Status*   **C**

ACCEPT.

Cl **142**   *SC* **142.3.5.7**   *P* **137**   *L* **42**   *#* 368

Hajduczenia, Marek   Charter Communications

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

in Figure 142-18, PayloadLeft variable is initialized in WAIT_FOR_DATA state with FEC_PAYLOAD_SIZE constant, defined in 142.2.5.1 as 56 units of 257-bit blocks. PayloadLeft is, however, decremented every 72 bit-block in OUTPUT_72B_BLOCK state, which means it runs 4 times faster than expected. It will lead to exhaustion of counter ahead of time, and termination of the FEC payload decoding process prematurely.

SuggestedRemedy

Move "PayloadLeft --" operation from OUTPUT_72B_BLOCK to PROCESS_257B_Block, where it will be counting in 257-bit blocks recovered from FEC payload, at the rate that is expected

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Changes per comment. Also, we need to move FEC_PAYLOAD_SIZE definition to 142.3.5.1 and just reference back to 142.2.5.1, as it was done for the FEC_CW_DELIM constant.

Cl **142**   *SC* **142.4**   *P* **137**   *L* **53**   *#* 385

Dawe, Piers   Mellanox

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

Missing text

SuggestedRemedy

Introduce / summarise the PMA

Response   *Response Status*   **U**

ACCEPT IN PRINCIPLE.

See comment #386.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142**
SC **142.4**

Page 57 of 103
9/17/2019 11:11:43 AM

Cl **142** *SC* **142.4.1**   *P* **137**   *L* **3**   # 387

Dawe, Piers   Mellanox

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

This isn't an adequate definition of "differential encoding".

SuggestedRemedy

Define it properly, including: What is it for? When is it used or useful? What is it - is it "precoding"? Are Xi and Yi bits, 257-bit vectors, or what? What is "Register" - a 1-bit delay? Define what you mean by a + in a circle.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

(1) precoding was used (twice) interchangeably for differential encoding in D2.0 (once in 142.4.2 and once in Figure 142-20). The more commonly used industry term is differential encoding, so precoding will be removed from subsequent draft versions.
=> replace "precoding" with "differential encoding" in two the following locations
 - Subclause 142.4.2
 - Figure 142-20

(2) Text is proposed to be added to 142.4 as follows to provide a brief definition of differential encoding and some guidelines on usage.

142.4 Nx25G-EPON PMA
"The PMA includes a downstream differential encoding option at the serial bit rate (output bits represent changes to succeeding input values rather than respect to a given reference). This encoding technique facilitates the use of lower bandwidth receivers."

(3) Implement changes to Figure 142-19 and Figure 142-20 as shown in http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/powell_3ca_1a_0719.pdf (changed marked in red)

Cl **142** *SC* **142.4.1**   *P* **138**   *L* **3**   # 165

Remein, Duane   Futurewei Technologies, Inc.

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

What is an "OLT TX PMA"?

SuggestedRemedy

Change to "OLT transmit PMA"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace "shall be implemented in the OLT TX PMA for downstream" with "shall be implemented in the transmit path of OLT PMA". Update PICS accordingly

---

Cl **142** *SC* **142.4.1**   *P* **138**   *L* **4**   # 166

Remein, Duane   Futurewei Technologies, Inc.

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

This sentence is poorly worded:
"Differential encoding is optional to use by setting the control bit in the register, as defined in Clause 45 register 1.29.15 (see 45.2.1.23a.2)."

SuggestedRemedy

Change
"Differential encoding is optional to use by setting the control bit in the register, as defined in Clause 45 register 1.29.15 (see 45.2.1.23a.2)." to
"Use of differential encoding is optional. Setting the register control bit 1.29.15 (see 45.2.1.23a.2) to a one enables the encoding."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment type changed to "T"

Change
"Differential encoding is optional to use by setting the control bit in the register, as defined in Clause 45 register 1.29.15 (see 45.2.1.23a.2)."
 to
"The use of differential encoding is optional. Setting the register control bit 1.29.15 (see 45.2.1.23a.2) to a one enables the differential encoding."

Cl **142** *SC* **142.4.2**   *P* **138**   *L* **9**   # 167

Remein, Duane   Futurewei Technologies, Inc.

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

What is an "OLT RX PMA function"?

SuggestedRemedy

Change:
"Differential decoding shall be implemented in the ONU PMA RX function as shown in Figure 142–20." to
"Differential decoding shall be implemented in the as shown in Figure 142–20 in the ONU receive PMA."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Still not good. What is "ONU transmit PMA for downstream"?

Replace "shall be implemented in the ONU PMA RX function" with "shall be implemented in the receive path of ONU PMA". Update PICS accordingly.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **142**   Page 58 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **142.4.2**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142** *SC* **142.4.2**   *P* **138** *L* **10** # 168

Remein, Duane   Futurewei Technologies, Inc.

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

Change "RX" to "receive"

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.4.2**   *P* **138** *L* **11** # 169

Remein, Duane   Futurewei Technologies, Inc.

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

Clause 45 does not contain "ONU registers"

SuggestedRemedy

Change
"mapped to Clause 45 ONU register 1.29.15" to
"mapped to Clause 45 register bit 1.29.15 (see 45.2.1.23a.2)"
use live link for xRef.

Response   *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.4.2**   *P* **138** *L* **12** # 335

Laubach, Mark   Broadcom

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

Missing period, end of last sentence of paragraph.

SuggestedRemedy

Add the period.

Response   *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.4.4.1**   *P* **138** *L* **13** # 170

Remein, Duane   Futurewei Technologies, Inc.

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

Per Clause 1.5 CDR mean clock and data recovery not clock data recovery

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **142** *SC* **142.5.5.4**   *P* **135** *L* **2** # 161

Remein, Duane   Futurewei Technologies, Inc.

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

Several SDs are not searchable in pdf files (i.e., are imported from some foreign drawing tool).

SuggestedRemedy

Redraw SDs in frame native drawing format if not already so.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #98

Cl **142** *SC* **142.5.5.5**   *P* **135** *L* **37** # 162

Remein, Duane   Futurewei Technologies, Inc.

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

This statement is not quite accurate "In the ONU,
shortened FEC codewords are disallowed."

SuggestedRemedy

Change
"In the ONU, shortened FEC codewords are disallowed."
"In the ONU receive path, shortened FEC codewords are disallowed."

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general *Cl* **142** Page 59 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn *SC* **142.5.5.5** 9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **142A**   *SC* **142A.1**   *P* **249**   *L* **51**   # 445

Powell, William   Nokia

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

Replace this note:
"Editor's Note (to be removed prior to publication): Link to the CSV file containing machine readable files to be added here prior to publication."

SuggestedRemedy

with:
An example set of LDPC test vectors can be found at:
http://www.ieee802.org/3/ca/private/machine-readable/3ca_LDPC_test_vectors.zip in machine readable format.
[later move it to http://standards.ieee.org/downloads/802.3/]

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #442.

Cl **142A**   *SC* **142A.2**   *P* **249**   *L* **37**   # 270

Kramer, Glen   Broadcom

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

Caption number is missing "14". Just says "2A.2"

SuggestedRemedy

Add missing text

Response   *Response Status* **C**

ACCEPT.

Cl **142A**   *SC* **142A.2**   *P* **249**   *L* **37**   # 482

Slavick, Jeff   Broadcom

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

The sub-clasue shows as "2A.2" instead of 142A.2

SuggestedRemedy

Fix it

Response   *Response Status* **C**

ACCEPT.

Cl **142A**   *SC* **142A.2**   *P* **249**   *L* **37**   # 110

Anslow, Pete   Ciena

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

The heading "2A.2 QC-LDPC FEC Encoder Test Vectors" should be "142A.2" not "2A.2"

SuggestedRemedy

In the heading "2A.2 QC-LDPC FEC Encoder Test Vectors" change "142A.2" to "2A.2" (Re-apply the heading style AH1,A.1)

Response   *Response Status* **C**

ACCEPT.

Cl **142A**   *SC* **142A.2**   *P* **249**   *L* **51**   # 483

Slavick, Jeff   Broadcom

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

machine is mis-spelled in editors note

SuggestedRemedy

Fix it

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change text of the editorial note to
Editor's Note (to be removed prior to publication): At publication time machine readable files will be
published under http://standards.ieee.org/downloads/802.3/ in a machine readable format.
Tables are accessible right now at: http://www.ieee802.org/3/ca/index.shtm

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **142A**
SC **142A.2**

Page 60 of 103
9/17/2019 11:11:43 AM

Cl **143**   *SC* **143.1**   *P* **143**   *L* **6**   # 259

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

Multi-channel Reconciliation Layer introduced - noted as connection between multiple macs and PHYs. There is no definition provided in 1.4, and if you look at the MCRS in Fig 143-1 - it is a mapping function that reconciles the signals at a specific Media Independent Interface (MII) to the specific Media Access Control (MAC)-Physical Signaling Sublayer (PLS) service
definitions.

SuggestedRemedy

Action 1 - add definition to 1.4 Multi-Channel Reconcillation Layer provide a mapping function that reconciles the signals at a specific Media Independent Interface (MII) to a specific Media Access Control (MAC)-Physical Signaling Sublayer (PLS) service
definitions.
Action 2 - change text in 143.1 -This clause describes the Multi-Channel Reconciliation Sublayer (MCRS) which enables multiple MACs to
interface with multiple Physical Layers.
to
This clause describes the Multi-Channel Reconciliation Sublayer (MCRS) which enables multiple MACs to
interface with multiple MII's.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Action 1 - add definition to 1.4 "Multi-Channel Reconcillation Layer (MCRS): The MCRS provides a mapping function that reconciles the signals at a specific Media Independent Interface (xMII) to a specific Media Access Control (MAC)-Physical Signaling Sublayer (PLS) service definitions."

Action 2 - change text in 143.1 -This clause describes the Multi-Channel Reconciliation Sublayer (MCRS) which enables multiple MACs to interface with multiple Physical Layers.
to
This clause describes the Multi-Channel Reconciliation Sublayer (MCRS) which enables multiple MACs to interface with multiple xMIIs.

Cl **143**   *SC* **143.1**   *P* **143**   *L* **37**   # 258

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

The figure is not consistent with other similar figures as noted in other comments, and the text associated with the MII is illegible.

SuggestedRemedy

redraw figure to be consistent with diagrams such as 56-1, 56-2, 56-3, 56-4.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Current figure emphasizes the purpose of Clause 143, covering MCRS function.

The text associated with the MII will be made more legible.

Cl **143**   *SC* **143.2.4.2**   *P* **145**   *L* **23**   # 32

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "and can contain at most two partial frames" to "and may contain at most two partial frames"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.2.4.4**   *P* **146**   *L* **40**   # 336

Laubach, Mark   Broadcom

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

"46.2.1" should be forest green. Same for Page 154, line 52 for "46.1.7.2"

SuggestedRemedy

Make it so.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 61 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.2.4.4**   9/17/2019 11:11:43 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.2.4.4**   *P* **147**   *L* **2**   # 261

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

use of red lines in Fig 143-3. See IEEE-SA Style Guideline - color should not be needed to interpret informatin, and line drawings should be saved as black/white
See also Fig 143-8, P 152

SuggestedRemedy

Save diagram in black /white

Response   *Response Status* **U**

REJECT.

Color is not needed to interpret data and not referenced in text in any way

---

Cl **143**   *SC* **143.2.5**   *P* **148**   *L* **2**   # 496

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **A**   *post-deadline; bucket*

Figure 143-5 vertical axis label has characters overlapping.

SuggestedRemedy

Use smaller font to prevent characters from overlapping.

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.2.5**   *P* **148**   *L* **33**   # 33

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "can achieve an instantaneous transmission rate of" to "may achieve an instantaneous transmission rate of"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here

---

Cl **143**   *SC* **143.2.5.2**   *P* **149**   *L* **25**   # 34

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "Other timing variability can accumulate in the sublayers" to "Other timing variability may accumulate in the sublayers"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.1**   *P* **153**   *L* **5**   # 171

Remein, Duane   Futurewei Technologies, Inc.

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

The M and N in "M instances of the PLS service interface (one per MAC) and N xMII instances" should be in italics.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.1**   *P* **153**   *L* **14**   # 262

D'Ambrosia, John   Futurewei, U.S. Subsidiary of Huawei

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

Vertical text in left / right of diagram of Fig 143-9 is illegible

SuggestedRemedy

Use different font to fascilate being able to read text

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line   *Cl* **143**   Page 62 of 103
SC **143.3.1**   9/17/2019 11:11:44 AM

Cl **143**   *SC* **143.3.1**   *P* **153**   *L* **26**   # 497

Brandt, David   Rockwell Automation

Comment Type   **T**   *Comment Status* **A**   *post-deadline*

Index is incorrect.

SuggestedRemedy

Change: "TXC[N]<3:0>", To: "TXC[N-1]<3:0>"

Response   *Response Status* **C**

ACCEPT.

This is a technical comment, type changed to "T"

Cl **143**   *SC* **143.3.1**   *P* **153**   *L* **26**   # 172

Remein, Duane   Futurewei Technologies, Inc.

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

We seem to have acquired an extra TCX in figure 143-9.

SuggestedRemedy

Change: "TXC[N}<3:0>" to "TXC[N-1}<3:0>"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change: "TXC[N]<3:0>" to "TXC[N-1]<3:0>"

Cl **143**   *SC* **143.3.1.1**   *P* **153**   *L* **41**   # 51

Hajduczenia, Marek   Charter Communications

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

Compound adjective

SuggestedRemedy

Change "In all single channel RS definitions" to "In all single-channel RS definitions"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.1.1**   *P* **154**   *L* **18**   # 52

Hajduczenia, Marek   Charter Communications

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

Statement is not correct: "All transmit 25GMII interfaces share a common clock." - tabel also shows XGMII

SuggestedRemedy

Change "All transmit 25GMII interfaces share a common clock." to "All transmit xGMII interfaces share a common clock." under Table 143-1

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove footnote a) reference points in rows for 10 Gb/s and 25 Gb/s in Table 143-1.

Cl **143**   *SC* **143.3.1.2.1**   *P* **155**   *L* **18**   # 173

Remein, Duane   Futurewei Technologies, Inc.

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

In "This opens an envelope on channel ch for the LLID specified by link_id with a length (in EQs) of env_length. If all channels are idle, the EnvPam variable (see 143.3.3.4) is set to the value of epam (see EnvStartHeader() function definition in 143.3.3.5)."
"ch", "link_id", "env_length", "EnvPam", "epam" should be in italics.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.1.2.2**   *P* **155**   *L* **25**   # 304

Kramer, Glen   Broadcom

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

The MCRS_CTRL[ch].indication(cw_left) primitive does not take any arguments anymore. It has been corrected everywhere in text, but still remains in the subclause title.

SuggestedRemedy

strike "cw_left"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 63 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.1.2.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**　　　*SC* **143.3.1.2.2**　　　*P* **155**　　　*L* **26**　　　# 174

Remein, Duane　　　　　　　　　Futurewei Technologies, Inc.

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

"ch" and "link_id", "env_length", "EnvPam", "epam" should be in italics.

SuggestedRemedy

per comment

Response　　　　　*Response Status* **C**

ACCEPT.

Cl **143**　　　*SC* **143.3.1.2.2**　　　*P* **155**　　　*L* **29**　　　# 35

Hajduczenia, Marek　　　　　　　Charter Communications

Comment Type **ER**　　　*Comment Status* **A**　　　　*can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "The MPCP can decide whether to issue a new envelope immediately" to "The MPCP may decide whether to issue a new envelope immediately"

Response　　　　　*Response Status* **C**

ACCEPT.

Cl **143**　　　*SC* **143.3.2**　　　*P* **156**　　　*L* **3**　　　# 175

Remein, Duane　　　　　　　　　Futurewei Technologies, Inc.

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

If we are treating field names as variables (as in Cl 144.3.6.x) then all field names in this section should be in italics.

SuggestedRemedy

per comment

Response　　　　　*Response Status* **C**

ACCEPT.

Cl **143**　　　*SC* **143.3.2**　　　*P* **157**　　　*L* **5**　　　# 105

Anslow, Pete　　　　　　　　　　Ciena

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

The IEEE Style Manual states that for a number range "Dashes should never be used because they can be misconstrued as subtraction signs."
Several table in the draft violate this rule.

SuggestedRemedy

In table 143-3, change all instances of "x-y" to "x to y"
Make equivalent change throughout the draft where a hyphen is used to indicate a range including:
Table 144-2, Table 144-3, Table 144-4, Table 144-7, Table 144-8, Table 144-11, Table 144-12.
142.4.4.2 page 139, line36 ("20-30")

Response　　　　　*Response Status* **C**

ACCEPT.

Cl **143**　　　*SC* **143.3.2**　　　*P* **157**　　　*L* **5**　　　# 263

Kramer, Glen　　　　　　　　　　Broadcom

Comment Type **TR**　　　*Comment Status* **A**　　　　　*bit-order*

The draft has multiple issues with incorrect endianness of various constants. Per 802.3 conventions, all hexadecimal values are shown with LSB on the right. Thus, the control bits in the EQ representing an envelope header should be 0x01 (i.e., the first octet in an EQ is a control character, the rest are data). But the draft shows the control bits as 0x80 in multiple places.

Also our definitions of IEI_EQ, IBI_EQ, RATE_ADJ_EQ, and PREAMBLE_EQ all show the control bits at the wrong end of the block.

SuggestedRemedy

Apply multiple changes to the draft as shown in kramer_3ca_2_0719.pdf

Response　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Per proposed changes, less changes to Table 143-3 deleted per comment #272

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.3.2**

Page 64 of 103
9/17/2019 11:11:44 AM

Cl **143**   *SC* **143.3.2**   *P* **157**   *L* **25**   # 272

Kramer, Glen   Broadcom

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

It is not true to state that bits E and K are "used by 1904.1". 1904.1 was approved in 2013 and has no knowledge of 802.3ca.

SuggestedRemedy

There are (at least) three possible solutions:
1) Table 143-3 provides no new information compared to the preceding Figure 143-10. In addition to everything that the table shows, the figure provides such details as the bit order for various fields and how the header is split across two 25GMII transfers. So, just delete the table.

2) Change bits E and K to "reserved" and delete all references to IEEE1904.1

3) If there is a strong desire to lock the bits E and K to 1904.1 (which is too presumptive at this time), then the footnote should say "Reserved for IEEE Std 1904.1". Only one footnote is needed for both bits. If we decide to go this route, in the description column, we should provide the full description of these bits instead of just E and K.

The commenter prefers solution #1.

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Implement option #1

In Figure 143-10, in the legend, change the description of K bit to read: "Encryption Key (reserved, not for use by IEEE Std 802.3)"

In Figure 143-10, in the legend, change the description of E bit to read: "Encryption Enabled (reserved, not for use by IEEE Std 802.3)"

Strike sentence "The envelope header shall use the format shown in Table 143–3." + remove Table 143-3 + remove associated PICS.

Change first para under 143.3.2 to read as follows + update PICS

"Each envelope initiated by the MCRS begins with a 72-bit envelope header. The envelope header shall be as shown in Figure 143–10. The envelope header includes a Start Control Code, an EnvType flag bit, a 22-bit Envelope Length field, an Envelope Position Alignment Marker (EPAM) field, two bits (E and K) reserved for encryption purposes, an LLID field, and an 8-bit cyclic redundancy check (CRC8)."

Move the following two sentences into the next para under Figure 143-10, right before the existing para:

"When the xMII is 36-bits wide the transmission envelope header, as illustrated in Figure

143–10, includes two successive transfers over the xMII. Each 36-bit transfer includes four control bits followed by 32 information bits."

Cl **143**   *SC* **143.3.2.1**   *P* **157**   *L* **43**   # 53

Hajduczenia, Marek   Charter Communications

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

The statement "The following test sequences show" is not clear, since associated tables are on the next page.

SuggestedRemedy

Change "The following test sequences show" to "The test sequences in Table 143-4, Table 143-5, and Table 143-6 show"

Response   *Response Status*   **C**

ACCEPT.

Cl **143**   *SC* **143.3.3**   *P* **158**   *L* **1**   # 273

Marris, Arthur   Cadence Design Systems

Comment Type   **E**   *Comment Status*   **R**

Why is some text shaded in Table 143-4?

SuggestedRemedy

Remove shading of CRC8 and other shading if appropriate.

Response   *Response Status*   **C**

REJECT.

Shading helps to highlight CRC8 field values in different representations. As footnotes to tables 143-4, 143-5, and 143-6 explain, the gray highlight indicates location and calculated value of CRC8 field.

Cl **143**   *SC* **143.3.3.2**   *P* **159**   *L* **42**   # 176

Remein, Duane   Futurewei Technologies, Inc.

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

"are be added" should be "are to be added"

SuggestedRemedy

per comment

Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 65 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.3.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.3.3.3**   *P***161**   *L***37**   # 337

Laubach, Mark   Broadcom

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

It would be a good idea to avoid hypenating contant names and any simple math equation where it might having confusing interpretation between minus sign and a hypen. Same for line 43.

SuggestedRemedy

Remove the line breaking.

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.3.3**   *P***161**   *L***44**   # 338

Laubach, Mark   Broadcom

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

End of sentence for Description needs a period.

SuggestedRemedy

Add the period to the end of sentence.

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.3.4**   *P***161**   *L***11**   # 177

Remein, Duane   Futurewei Technologies, Inc.

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

"is also as the row index" should be "is also used as the row index"

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.3.5**   *P***162**   *L***20**   # 367

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *bit-order*

Bit ordering in EnvContHeader and EnvStartHeader function definitions is reversed. In all other cases, we show ranges starting from higher value and ending with lower value. Here, for some reason, the ranges are reversed

SuggestedRemedy

Reverse the bit order, for example hdr<0:7> should become hdr<7:0>

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #263

Cl **143**   *SC* **143.3.3.5**   *P***163**   *L***28**   # 360

Hajduczenia, Marek   Charter Communications

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

Format definition of EQ structure is missing. It is defined through a comment only

SuggestedRemedy

A formal definition will be needed, perhaps using C++ style for classes, showing fields defined and how they are defined?

struct EQ {
bool Control[8];
int8u Data [8];
}

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change
"// Consists of 8 bits of control (Ctrl[0…7])
// and 8 octets of data (Data[0…7])"

to

"// Consists of 8 bits of control (Ctrl[0…7])
// and 8 octets of data (Data[0…7]), as shown in Figure 143–2"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.3.3.5**

Page 66 of 103
9/17/2019 11:11:44 AM

Cl **143**   *SC* **143.3.3.5**   *P* **163**   *L* **32**   # 366

Hajduczenia, Marek   Charter Communications

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

"," versus ";"

SuggestedRemedy

change "for(octet_index = 0; octet_index < 8, octet_index++)" to "for(octet_index = 0; octet_index < 8>>>>>;<<<<< octet_index++)", change marked in >>>>><<<<<

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.3.5**   *P* **163**   *L* **32**   # 178

Remein, Duane   Futurewei Technologies, Inc.

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

GetMacOctet and IsIdle are not defined

SuggestedRemedy

Add in alpha order:
GetMacOctet (link_id) a function that returns eight bits of data from the MAC associated with the passed <italic>link_id</italic>.

IsIdle(byte)   a Boolean function that returns True of all bits in the <italic>byte</italic> are idle.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #311

Cl **143**   *SC* **143.3.3.5**   *P* **163**   *L* **33**   # 359

Hajduczenia, Marek   Charter Communications

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

Function GetMacOctet() used but not formally specified anywhere.

SuggestedRemedy

Insert a formal definition of GetMacOctet() function as follows:

int8u GetMacOctet(ink_id)
The GetMacOctet() function retrieves one octet (8 bits) of data from a MAC identified by the link_id parameter and returns it to the calling function.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #311

Cl **143**   *SC* **143.3.3.5**   *P* **163**   *L* **33**   # 311

Lynskey, Eric   Broadcom

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

GetMacOctet function is not defined.

SuggestedRemedy

Returns an 8-bit vector based on eight PLS_DATA.request primitives. Each bit may take one of four values: ONE, ZERO, DATA_COMPLETE, or IDLE. If the PLS_DATA.request primitive is not able to return a value of ONE, ZERO, or DATA_COMPLETE, a value of IDLE will be returned instead.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update definitions of GetMacOctet and IsIdle functions per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_10a_0719.pdf

---

Cl **143**   *SC* **143.3.3.5**   *P* **163**   *L* **34**   # 312

Lynskey, Eric   Broadcom

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

IsIdle function is not defined.

SuggestedRemedy

A boolean function that returns TRUE if all eight bits of the presented octet have a value of IDLE. Otherwise, it returns FALSE.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #311

Cl **143**   *SC* **143.3.3.6.2**   *P* **165**   *L* **1**   # 361

Hajduczenia, Marek   Charter Communications

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

Variable EnvPam used but not initialized in the state diagram or description.

SuggestedRemedy

Add initialization value to state INIT in Figure 132-12

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add initialization value (0) to state INIT in Figure 143-12

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 67 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.3.6.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.3.3.6.2**   *P***165**   *L***1**   # 365

Hajduczenia, Marek   Charter Communications

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

In Figure 143-12, data starts being written into EnvTx from wRow of 1 (see INIT state where it is set to 0, and then NEXT_ROW where it is set immediately to 1 before any data is written into EnvTx), while Figure 143-13 starts reading data from rRow equal to 0. This means that at the start of the state diagram, state and content of EnvTx[ch][0] is not defined in any way.

SuggestedRemedy

Suggest to change initialization condition in Figure 143-13 to match initialization of EnvTx in Figure 143-12, i.e., change rRow < 0 to rRow < 1. Index wrap-around will do the rest and we can avoid the problem altogether.

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143**   *SC* **143.3.3.6.2**   *P***165**   *L***3**   # 489

Law, David   Hewlett Packard Enterprise

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

Subclasue 2.6.3 'Draft Standard Formatting Requirements' of the IEEE 802.3 Operations Manual states that 'The draft must be provided to the IEEE in Adobe® Framemaker. At a minimum this shall be completed prior to the Sponsor ballot however it is preferable that the draft be maintained in this format for its entire life.'. It appears, however, that at least some of the state diagrams are not in Frame and are instead imported pictures, for example 143-12 and 143-13.

SuggestedRemedy

Ensure that Figures are converted to Framemaker prior to Sponsor ballot, the earlier the better to ensure that any errors created during the conversion are caught as soon as possible. If you need help in doing this please let me know.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #98

Cl **143**   *SC* **143.3.3.6.2**   *P***165**   *L***15**   # 364

Hajduczenia, Marek   Charter Communications

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

Name of CHECK_ENV_SIZE state is rather ill-fitting - there is no envelope size checking done in this state, all it does it prepare filler pattern in case there is no data to send

SuggestedRemedy

Change name of CHECK_ENV_SIZE state to PREP_FILLER (for preparing filler EQ pattern)

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **143**   *SC* **143.3.3.6.2**   *P***165**   *L***15**   # 363

Hajduczenia, Marek   Charter Communications

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

Name of CHECK_HEADER state is rather ill-fitting - there is no header check in this state, it is empty in fact

SuggestedRemedy

Change name of CHECK_HEADER state to FETCH_ENV (for fetching envelope if MCRS does send request in time)

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "CHECK_HEADER" to "CHECK_NEW_ENV"

Cl **143**   *SC* **143.3.3.6.2**   *P***165**   *L***15**   # 362

Hajduczenia, Marek   Charter Communications

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

Figure 143-12 seems to be using "*" symbol designating "AND" logical operation. All other SDs have been modified to use the new set of definitions. This one was left behind

SuggestedRemedy

Change all instances of "*" to "AND" in Figure 143-12

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 68 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.3.6.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.3.3.6.2**   *P* **165**   *L* **36**   *#* 339

Laubach, Mark   Broadcom

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

In Acrobat for my PDF, it looks like a hypen at the end of "BlkLeft[wCol]-" rather than a minus 1 "- -" , like in the end of "EnvLeft[wCol]- - " on line 30.

SuggestedRemedy

Confirm it should be a minus 1 '- -" and make it visibly clear.

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.3.6.2**   *P* **166**   *L* **9**   *#* 264

Kramer, Glen   Broadcom

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

MCRS Transmit Process (Fig 143-13) and MCRS Receive Process (Fig 143-15) do not use proper bit locations, according to EQ format definition in Figure 143-2.

SuggestedRemedy

Change both state diagrams as shown in kramer_3ca_1_0719.pdf

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.4.3**   *P* **168**   *L* **43**   *#* 179

Remein, Duane   Futurewei Technologies, Inc.

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

"RX_-
CLK[ch]" should not cross the line.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.4.4**   *P* **169**   *L* **15**   *#* 265

Kramer, Glen   Broadcom

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

When an envelope header is formed, the CRC8 is calculated over bits 8 through 63 of an EQ. But when the header is received, the IsHeader() function calculates its own CRC8 over bits 0 through 63. These CRC8 values will never match.

SuggestedRemedy

In Function IsHeader(…), replace the line
"eq<64:71> == CRC8(eq<0:63>));"
with the line
"eq<71:64> == CRC8(eq<63:8>));"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.4.4**   *P* **169**   *L* **28**   *#* 266

Kramer, Glen   Broadcom

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

Incorrect format for a hexadecimal numeric value

SuggestedRemedy

replace 0x0A0A0A0A with 0x0A-0A-0A-0A

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.3.4.4**   *P* **169**   *L* **36**   *#* 180

Remein, Duane   Futurewei Technologies, Inc.

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

Make code for OutputToMac(int16 link_id, EQ eq) more condensed and readable by putting comments on same line as instruction, combining comments "// Rx other ctrl. character { // including /T/ (value 0xFD)" etc.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 69 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.4.4**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**	*SC* **143.3.4.5.1**	*P* **171**	*L* **21**	# 181

Remein, Duane   Futurewei Technologies, Inc.

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

Variable wRow as defined in 143.3.4.3 is a six bit variable but in Fig 143-15
PARSE_HEADER state it is been assigned a 5 bit value. These two sizes should agree.

SuggestedRemedy

Change RxEQ<4:0> to RxEQ<5:0>

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #264

Cl **143**	*SC* **143.3.4.5.2**	*P* **172**	*L* **21**	# 182

Remein, Duane   Futurewei Technologies, Inc.

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

Need to latch localtime on ESH.

SuggestedRemedy

Between PROCESS_HEADER and UPDATE_ENV_SIZE add the following:
New state: "CHECK_FOR MPCPDU"
Action: none
Exit 1 to UPDATE_ENV_SIZE: else
Exit 2 to 2nd new state: LinkID[rCol] (is a member of) {TS_LLID}

2nd new state: "CAPTURE_TIMESTAMP"
Action: TS(Plid) <= LocalTime
Exit to UPDATE_ENV_SIZE: UCT

Define new variables:
TS_LLID
Type: list of PLIDs
Description: A list of all active PLIDs.

LocalTime
Type: 32-bit unsigned
See 144.2.1.2

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

MCRS cannot check for MPCPDUs. It has no notion of frames. No there is a concept of
LocalTime in MCRS. LocalTime is MPCP variable

Use http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_4_0719.pdf
with the following changes:
- MCRS_ECH needs to be changed to MCRS_ESH

=============

Updates to definition of ProcessTimestamp are also needed. Here is the raw text

ProcessTimestamp (Plid, TsDelta)
This function takes the PLID and a parameter *TsDelta*, which represents the
difference between the local time and the timestamp value in a received MPCPDU. This
function checks whether the timestamp drift has exceeded the predefined device-specific
threshold *DRIFT_THOLD*. In the ONU, this function sets the *LocalTime*
variable based on the value of the received *Timestamp* field (see 144.3.1.1). In the
OLT, this function measures the RTT value when the first timestamped MPCPDU is
received on a given PLID link. Note that in the ONU, the RTT value is always zero. The
ProcessTimestamp function is defined as follows:

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 70 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.3.4.5.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143** *SC* **143.4.1** *P* **174** *L* **8** *#* 183

Remein, Duane   Futurewei Technologies, Inc.

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

We have generally agreed to use xMII where appropriate. Also the 25GMII supports 10 Gb/s operation only in a very obtuse manor.

SuggestedRemedy

Change
"The MCRS in Nx25G-EPON architecture serves as an interfaces sublayer between the MAC sublayer and 25GMII. The 25GMII interfaces have the following characteristics:" to "The MCRS in Nx25G-EPON architecture serves as an interface sublayer between the MAC and xMII. The xMII interfaces have the following characteristics:"

Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Comment type changed to "T"

On page 174, line 11, change "They are capable of supporting 25 Gb/s or 10 Gb/s operation" to "The 25GMII is rate-scalable and may support rates of 25 Gb/s and 10 Gb/s"

Cl **143** *SC* **143.4.1.1** *P* **174** *L* **17** *#* 184

Remein, Duane   Futurewei Technologies, Inc.

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

There is no need for an abbreviation which is never used (to say nothing of confusing if used)

SuggestedRemedy

Strike "(DC)" and "(UC)"

Response   *Response Status* **C**
ACCEPT.

Cl **143** *SC* **143.4.1.1** *P* **174** *L* **30** *#* 404

Dawe, Piers   Mellanox

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

Nx25GEPON

SuggestedRemedy

Nx25G-EPON

Response   *Response Status* **C**
ACCEPT.

Cl **143** *SC* **143.4.1.1** *P* **174** *L* **42** *#* 389

Dawe, Piers   Mellanox

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

Unnecessary line break

SuggestedRemedy

Also at line 45

Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Change width of the table to match current line width.

Cl **143** *SC* **143.4.1.2** *P* **175** *L* **4** *#* 185

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **T**   *Comment Status* **A**   *143.4.4*

I don't believe there is a suitable reference to support this statement: "Additional details for MCRS implementations supporting the channel rate asymmetry
are provided in 143.4.4."

SuggestedRemedy

Strike the statement

Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

Comment type changed to "T"

This points to missing details in MCRS specification. Nowhere do we define how to achieve assymetric behavior. Keep the reference for now and add editors note that section 143.4.4 is needed.

Cl **143** *SC* **143.4.1.2** *P* **175** *L* **5** *#* 54

Hajduczenia, Marek   Charter Communications

Comment Type **E**   *Comment Status* **A**   *143.4.4*

Reference in red

SuggestedRemedy

Strike statement "Additional details for MCRS implementations supporting the channel rate asymmetry are provided in 143.4.4"

Response   *Response Status* **C**
ACCEPT IN PRINCIPLE.

See comment #185

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **143**
SC **143.4.1.2**

Page 71 of 103
9/17/2019 11:11:44 AM

Cl **143**   *SC* **143.4.1.2**   *P* **175**   *L* **5**   # 313

Lynskey, Eric   Broadcom

Comment Type **E**   *Comment Status* **A**   *143.4.4*

Subclause 143.4.4 does not exist.

SuggestedRemedy

Remove the sentence.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #185

Cl **143**   *SC* **143.4.1.2**   *P* **175**   *L* **5**   # 388

Dawe, Piers   Mellanox

Comment Type **E**   *Comment Status* **A**   *143.4.4*

Apparent cross-reference in red "143.4.4" doesn't work.

SuggestedRemedy

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #185

Cl **143**   *SC* **143.4.1.2**   *P* **175**   *L* **5**   # 340

Laubach, Mark   Broadcom

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

"143.4.4" should be a proper crossref and not just RED in colorf.

SuggestedRemedy

Make it a proper cross ref.

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.4.1.2**   *P* **175**   *L* **10**   # 36

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "the channel number asymmetry mechanisms can be combined" to "the channel number asymmetry mechanisms may be combined"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.4.1.3.2**   *P* **175**   *L* **39**   # 37

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "buffer can be reduced to only two rows" to "buffer may be reduced to only two rows"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.4.2**   *P* **176**   *L* **2**   # 186

Remein, Duane   Futurewei Technologies, Inc.

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

Missing "The"

SuggestedRemedy

Add before: "ONU MCRS always sets the write pointer ..."
and at line 14 before "PCS receiver synchronizes on start-of-burst delimiter …"
and at line 17 before "xMII and is received into … "
and at line 17 before "OLT MCRS EnvRx buffer."

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **143**   Page 72 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **143.4.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **143**   *SC* **143.4.2**   *P* **176**   *L* **28**   # 187

Remein, Duane   Futurewei Technologies, Inc.

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

What is a DSC_PLID?

SuggestedRemedy

Change to DISC_PLID

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.4.3**   *P* **176**   *L* **45**   # 188

Remein, Duane   Futurewei Technologies, Inc.

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

I believe MPCP has already been introduced in this clause

SuggestedRemedy

Change:
"Multi-Point Control Protocol (MPCP)" to
"MPCP"

Response   *Response Status* **C**

ACCEPT.

Cl **143**   *SC* **143.5.4.2**   *P* **179**   *L* **6**   # 106

Anslow, Pete   Ciena

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

The rules for entries in the "Status" column of PICS table are defined in 21.6.2 of the base standard. This does not include "+" as an "or" function.

SuggestedRemedy

Change "+" to "or" as per previous amendments

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144**   *P* **180**   *L* **1**   # 464

Thompson, Geoff   GraCaSI S.A./Independent

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

This clause is out of scope. It is shown in Fig. 144-2 as residing in the MAC sub-layer. This is a Physical Layer project which said it would "extend the operation of EPON protocols". That means to me the augmentation of what is specified in clause 64, not the creation of an entire new specification misplaced in the Physical Layer.

SuggestedRemedy

Rewrite the draft to fit what was promised in the PAR. Presumably that will include deleting lause 144.

Response   *Response Status* **U**

REJECT.

The PAR scope states that this project "… also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as MultiPoint Control Protocol (MPCP) and Operation Administration and Management (OAM)." Just like previous generations of Multi-Point Control Protocol (MPCP), the new generation uses GATE and REPORT MPCPDUs to provide time-based transmission arbitration for multiple connected ONUs. However, the new MPCP extends the existing MPCP specification by supporting multiple channels, and specifying finer granularity for transition units (2.56 ns EQs instead of 16 ns TQs). There are numerous other enhancements.

The TF strongly disagrees that the statement "extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as MultiPoint Control Protocol (MPCP)" implies that all the changes need to be confined to one of the existing MPCP clauses (see Clause 64 or Clause 77), and not be defined as a new clause. The TF made a decision to create a new clause instead of modifying an existing clause for clarity of presentation and for the convenience of users of the standard. This is not unlike an earlier WG decision to specify the simplified full-duplex MAC as a separate Annex 4A instead of modifying the operation of the existing CSMA/CD MAC in Clause 4.

Cl **144**   *SC* **144**   *P* **244**   *L* **6**   # 254

Remein, Duane   Futurewei Technologies, Inc.

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

MP9b should ref 144.3.7.7 not 144.3.8.7.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 73 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.1**   *P* **180**   *L* **12**   # 189

Remein, Duane   Futurewei Technologies, Inc.

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

  We report queue occupancy levels not congestion.

SuggestedRemedy

  Change:
  "reporting of congestion" to:
  "reporting queue occupancy"

Response   *Response Status* **C**

  ACCEPT.

  Comment type changed to "T"

Cl **144**   *SC* **144.1**   *P* **180**   *L* **20**   # 190

Remein, Duane   Futurewei Technologies, Inc.

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

  Missing "the", "a", or "an"

SuggestedRemedy

  At the following locations (pg/line) change "" to read "":
  180/20 "TDM-based access to P2MP medium" -> "TDM-based access to _the_ P2MP medium"
  181/27 "binding each instance of MAC" -> "binding each instance of _a_ MAC"
  183/3 "upstream transmissions in EPON" -> "upstream transmissions in _an_ EPON"
  186/5 "envelope transmission over multi-channel P2MP media" -> "envelope transmission over _a_ multi-channel P2MP media"
  187/1 "For accuracy of receive clock" -> "For accuracy of _the_ receive clock"
  187/11 "MPCPDU is received from MAC" -> "MPCPDU is received from _the_ MAC"
  189/35 "To achieve this goal, MPCP includes processes that measure range" -> "To achieve this goal, _the_ MPCP includes processes that measure _the_ range" (2x)
  190/11 "transmits DISCOVERY MPCPDU with timestamp value" -> "transmits a DISCOVERY MPCPDU with a timestamp value" (2x)
  193/12 "of GATE Generation Process and a separate instance of Registration Completion Process" -> "of _the_ GATE Generation Process and a separate instance of _the_ Registration Completion Process"
  195/26 "may only contain PLID, MLID, or ULID, but never GLID" -> "may only contain _a_ PLID, MLID, or ULID, but never _a_ GLID"
  208/49 "registered ONUs using unicast" -> "registered ONUs using a unicast"
  214/43 "transmitting at line rate" -> "transmitting at a line rate"
  214/48 "transmitting at line rate" -> "transmitting at a line rate"
  222/5 "timer counts down time" -> "timer counts down the time"
  227/18 "ONU is capable of receiving DISCOVERY MPCPDU" -> "ONU is capable of receiving a DISCOVERY MPCPDU"
  227/19 "transmitted by the OLT on DISC_PLID" -> "transmitted by the OLT on the DISC_PLID"
  227/27 "ONU skips such discovery attempt" -> "ONU skips such discovery attempts" (add an "s" to attempt)

Response   *Response Status* **C**

  ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 74 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.1**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144** *SC* **144.1**   *P* **180** *L* **21**   # 341

Laubach, Mark   Broadcom

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

Bullets have inconsistent endings, one ends in a period, the other doesn't.

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line endings

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "." at the end of the second bullet.

Cl **144** *SC* **144.1.1.1**   *P* **180** *L* **45**   # 191

Remein, Duane   Futurewei Technologies, Inc.

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

Hopefully we allocate more than one grant to each ONU

SuggestedRemedy

Change
"allocating a transmission window (grant)" to
"allocating transmission windows (grants)"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "This arbitration is achieved by allocating a transmission window (grant) to each ONU." to "This arbitration is achieved by allocating transmission windows (grants) to ONUs."

Cl **144** *SC* **144.1.1.2**   *P* **181** *L* **24**   # 192

Remein, Duane   Futurewei Technologies, Inc.

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

This is the only instance of "MAC element"

SuggestedRemedy

Change to "MAC instances"

Response   *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.1.1.2**   *P* **181** *L* **40**   # 193

Remein, Duane   Futurewei Technologies, Inc.

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

This para implies free use of pre-defined single-copy broadcast for a number of purposes which is incorrect.

SuggestedRemedy

Change:
"Several single-copy broadcast logical links are pre-set. Such links may be used to broadcast MPCPDUs,
CCPDUs, or OAMPDUs." to:
"Several single-copy broadcast logical links are pre-defined for specific purposes (see Table 144-1)."

Response   *Response Status* **C**

ACCEPT.

Cl **144** *SC* **144.1.1.2**   *P* **181** *L* **49**   # 194

Remein, Duane   Futurewei Technologies, Inc.

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

This statement is extraneous and misleading imho. Most LLID values are not setup by the Discovery Process and those that are not very "dynamic" but rather static.

SuggestedRemedy

Strike "Some LLID values are pre-set, while other values are dynamically assigned by the Discovery Process (144.3.5)."
If the TF believe it is necessary to mention the Discovery Process in this section then change "By default, the OLT is connected" to "By default during the Discovery Process (144.3.5), the OLT is connected"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Strike the sentence "Some LLID values are pre-set, while other values are dynamically assigned by the Discovery Process (144.3.5)."

Add a new sentence, following the sentence "By default…": "These two connections per each ONU are established during the Discovery Process (see 144.3.5).

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.1.1.2**

Page 75 of 103
9/17/2019 11:11:44 AM

Cl **144**   *SC* **144.1.1.3**   *P* **183**   *L* **4**   # 38

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "newly connected ONU can be scheduled for the upstream transmission" to "newly connected ONU may be scheduled for the upstream transmission"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here

---

Cl **144**   *SC* **144.1.1.3**   *P* **183**   *L* **8**   # 195

Remein, Duane   Futurewei Technologies, Inc.

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

"registration requests" should be singular
"details" at line 13 too.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.1.3**   *P* **183**   *L* **26**   # 2

Hajduczenia, Marek   Charter Communications

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

Empty lines
Similar issue in 144.1.4

SuggestedRemedy

Remove the empty lines

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.1.4.2**   *P* **184**   *L* **10**   # 314

Lynskey, Eric   Broadcom

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

Multiplexor

SuggestedRemedy

Multiplexer is used more frequently. Suggest that all instances of multiplexor be changed. Page 184 lines 42 and 45. Page 186 line 33. Page 187 line 19 and 30.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.1.4.2**   *P* **184**   *L* **45**   # 196

Remein, Duane   Futurewei Technologies, Inc.

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

"MCI:MA_-
CONTROL.indication" crosses the line

SuggestedRemedy

make non-breaking

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.1.4.2**   *P* **184**   *L* **45**   # 3

Hajduczenia, Marek   Charter Communications

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

Name of primitive is broken across lines

SuggestedRemedy

Make sure primitive names do not break across lines.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 76 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.1.4.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**	*SC* **144.1.4.4**	*P* **186**	*L* **3**	# 197

Remein, Duane   Futurewei Technologies, Inc.

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

MCRS already introduced on pg 181

SuggestedRemedy

Change:
"Multi-Channel Reconciliation sublayer (MCRS, see Clause 143)" to
"MCRS (see Clause 143)"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #4

Cl **144**	*SC* **144.1.4.4**	*P* **186**	*L* **4**	# 4

Hajduczenia, Marek   Charter Communications

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

MCRS primitibe defined before

SuggestedRemedy

Change "sublayer (MCRS, see Clause 143)." to "sublayer (see Clause 143)."

Response   *Response Status* **C**

ACCEPT.

Cl **144**	*SC* **144.2.1**	*P* **186**	*L* **27**	# 198

Remein, Duane   Futurewei Technologies, Inc.

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

Use of the term timestamp is ambiguous:
187/28 - defined as a variable
187/30 - something other than (LocalTime?) the variable that is being defined
187/33 - the variable that is being defined
187/52 - a non italicized variable
187/53 - "timestamp value" (which apparently is not the same as the variable)
188/2 - a field name "Timestamp field"
191/40 - the value of the variable (or maybe field?) "the Timestamp value pre-compensated"
192/24 - a field value "the Timestamp field value"
I could go on;
  there are 29 instances of "Timestamp" most of which (but not all) are in italics (including a lone instance of "Timestamp drift" in DeregistrationTrigger definition),
  there are 29 instances of "timestamp" none of which are in italics (including 11 instance of "timestamp value" and 11 instances of "timestamp drift")

We can be nicer to the first time reader.

SuggestedRemedy

See remein_3ca_2_0719.pdf which shows all changes in marked text (remein_3ca_3_0719 omits change markings).

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement the following changes from
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/remein_3ca_2_0719.pdf:
- 186 '27-30
- 186 '40
- 190 '16, change text "When an unregistered ONU receives the DISCOVERY MPCPDUs, it sets its LocalTime counter according to the value in the Timestamp field in the received MPCPDU." "When an unregistered ONU receives the DISCOVERY MPCPDUs, it sets its LocalTime counter based on the value in the Timestamp field in the received MPCPDU."
- 190 '20
- 190 '26-30
- 191 '40-45, excluding change to TimestampTx
- 199 '41, use the following "Up to seven LLIDs can be reported by a single REPORT MPCPDU. REPORT MPCPDUs also carry the <i>Timestamp</i> field. The value of this field is used by the OLT to check for the timestamp drift error (see 144.3.1.1)."
- 201 '6 , use the following text: "The REGISTER_REQ MPCPDUs carry the <i>Timestamp</i> field. The value of this field is used by the OLT to measure the round-trip time of that ONU (see 144.3.1.1)."
- 243 '17
- 247 '39, use the following text: "The value of the <i>Timestamp</i> field is generated by MAC Control and is not exposed through the client interface."

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.2.1**

Page 77 of 103
9/17/2019 11:11:44 AM

Cl **144**   *SC* **144.2.1**   *P* **186**   *L* **27**   # 5

Hajduczenia, Marek   Charter Communications

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

We usually use the term "forward" to describe the action of delivering frames somewhere else

SuggestedRemedy

Change "passing these frames" to "forwarding these frames"

Response   *Response Status*   **C**

ACCEPT.

Cl **144**   *SC* **144.2.1.2**   *P* **186**   *L* **53**   # 199

Remein, Duane   Futurewei Technologies, Inc.

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

We should be more specific about which TX & Rx clocks are being referred to here.

SuggestedRemedy

Change
"At the OLT the counter shall track the transmit clock, while at the ONU the counter shall track the receive clock." to
"At the OLT the counter shall track the xMII transmit clock, while at the ONU the counter shall track the xMII receive clock."

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Change
"At the OLT the counter shall track the transmit clock, while at the ONU the counter shall track the receive clock." to
"At the OLT the counter shall track the 25GMII transmit clock, while at the ONU the counter shall track the 25GMII receive clock."

Update PICS.

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 269

Kramer, Glen   Broadcom

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

TBD and missing reference

SuggestedRemedy

replace with a cross-reference to 142.4.3.1

Response   *Response Status*   **C**

ACCEPT.

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 480

Slavick, Jeff   Broadcom

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

TBD present for LocalTime reference.

SuggestedRemedy

Replace TBD with pointer to appropriate refernce clause

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 200

Remein, Duane   Futurewei Technologies, Inc.

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

Either this statement is incorrect or the Control Parser Process is incorrect. "In the ONU, this variable is updated with the received timestamp value by the Control Parser Process (see 144.2.1.5)". Note that the ProcessTimestamp only sets the ONUs LocalTime once.

SuggestedRemedy

Copy the "// The following line is executed only in the ONU
LocalTime = Timestamp;" lines to the end of the else statement in ProcessTimestamp definition (pg 188 line 17).

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #182.

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 278

Marris, Arthur   Cadence Design Systems

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

{TBD reference to Clause 142 needed}

SuggestedRemedy

Add appropriate reference

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

See comment #269

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 78 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.2.1.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 6

Hajduczenia, Marek   Charter Communications

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

Missing reference to Clause 142

SuggestedRemedy

I do not see any statement which could be referenced to. Strike the whole sentence?

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 342

Laubach, Mark   Broadcom

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

Resolve the red TBD text to cross reference to the appropriate Clause 142 subclause.

SuggestedRemedy

Make it so.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 390

Dawe, Piers   Mellanox

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

Missing cross-reference

SuggestedRemedy

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.2**   *P* **187**   *L* **1**   # 107

Anslow, Pete   Ciena

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

"{TBD reference to Clause 142 needed}" is not acceptable content for a draft that is suitable to move to Standards Association ballot.

SuggestedRemedy

replace "{TBD reference to Clause 142 needed}" with a suitable reference.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.2**   *P* **189**   *L* **1**   # 298

Wienckowski, Natalie   General Motors

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

There is a red highlighted TBD in the document.

SuggestedRemedy

Change: {TBD reference to Clause 142 needed}
To: Appropriate subclause in Clause 142.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

Cl **144**   *SC* **144.2.1.3**   *P* **187**   *L* **1**   # 444

Powell, William   Nokia

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

Current text:
"For accuracy of receive clock, see {TBD reference to Clause 142 needed}."

SuggestedRemedy

Change to read:
For accuracy of receive clock, see 142.4.3.1.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #269

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 79 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.2.1.3**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.2.1.3**   *P* **187**   *L* **9**   # 201

Remein, Duane   Futurewei Technologies, Inc.

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

What is a PLID? The mnemonic has not yet been introduced.

SuggestedRemedy

Change "PLID" to "Physical Layer ID (PLID)"
On pg 194 line 45 change "Physical Layer ID (PLID)" to "PLID"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.2.1.3**   *P* **187**   *L* **35**   # 202

Remein, Duane   Futurewei Technologies, Inc.

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

The reference to T able 31A-1 should not be forest green but rather a live link here and at line 40.

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.2.1.5**   *P* **188**   *L* **48**   # 315

Lynskey, Eric   Broadcom

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

In Figure 144-5, it shows that the first argument passed to MCII is the DA. In 144.1.4.2, it shows the first parameter as being the opcode.

SuggestedRemedy

Remove DA from the argument list.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.1**   *P* **189**   *L* **34**   # 203

Remein, Duane   Futurewei Technologies, Inc.

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

"To main purpose of the MPCP" or not "To main purpose of the MPCP" Either way "To" is wrong.

SuggestedRemedy

Change:
"To main purpose of the MPCP" to
"The main purpose of the MPCP"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.1.1**   *P* **191**   *L* **33**   # 343

Laubach, Mark   Broadcom

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

For consitency, statements 1) and 2) need periods at the end of the sentence.

SuggestedRemedy

Make it so.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.1.1**   *P* **192**   *L* **29**   # 39

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "This condition can be independently detected" to "This condition may be independently detected"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here

---

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 80 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.1.1**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.1.1**   *P* **192**   *L* **34**   # 204

Remein, Duane   Futurewei Technologies, Inc.

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

MLID has not been introduced.

SuggestedRemedy

Change "MLID" to "Management Link ID (MLID)"
On pg 195 line 3 change "Management Link ID (MLID) carries" to "The MLID carries"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.1.1**   *P* **192**   *L* **37**   # 205

Remein, Duane   Futurewei Technologies, Inc.

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

This requirement is redundant as a properly implemented ProcessTimestamp function ensures that this first large timestamp difference is accommodated.

SuggestedRemedy

Change:
"This large difference is detected immediately after the registration is expected and the ONU shall not recognize it as a timestamp drift error." to
"This large difference that is detected immediately after registration is expected and the ONU does not recognize it as a timestamp drift error (see ProcessTimestamp 144.2.1.4)."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:
"This large difference is detected immediately after the registration is expected and the ONU shall not recognize it as a timestamp drift error." to
"This large difference that is detected immediately after registration is expected and the ONU does not recognize it as a timestamp drift error (see ProcessTimestamp in 144.2.1.4)."
+ strike MP8b PICs + change MP8a to MP8

Cl **144**   *SC* **144.3.1.2**   *P* **192**   *L* **44**   # 206

Remein, Duane   Futurewei Technologies, Inc.

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

This is the only instance of the word allowances in the draft. We should not indiscriminately use different terms for the same thing.

SuggestedRemedy

change to allocations

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.2**   *P* **193**   *L* **5**   # 344

Laubach, Mark   Broadcom

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

Only one of the five hypeniated (bulleted) have an ending period. Same for list beginning on page 193, line 52.

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line endings

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "." at the end of the last sentence.

Cl **144**   *SC* **144.3.2**   *P* **193**   *L* **12**   # 207

Remein, Duane   Futurewei Technologies, Inc.

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

"as separate instance" should be "a separate instance"

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment. Also should be "are created"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 81 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.2**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.4.1**   *P* **194**   *L* **46**   # 208

Remein, Duane   Futurewei Technologies, Inc.

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

Are these "TDM-based medium access by the ONUs" something other than GATES? There is no need to introduce new terms here.

SuggestedRemedy

Change:
"such as TDM-based
medium access by the ONUs" to
"such as GATE messages"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment type changed to "T"

"TDM-based medium access" is an explanation of "Nx25G-EPON operation", not an example, of flows. PLID carries all MPCPDUs, not only GATES.

Rephrase the sentence as follows: "The Physical Layer ID (PLID) carries messages used to control critical Nx25G-EPON operations, such as ONU registrations and arbitration of ONU's access to PON medium."

Cl **144**   *SC* **144.3.5**   *P* **195**   *L* **44**   # 209

Remein, Duane   Futurewei Technologies, Inc.

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

There are duplicate requirements between Table 144-1 and the text of Section 144.3.5. For example registered ONUs accepting BCAST_PLID is specified in Table 144-1 3rd row and on pg 196 line 17.

SuggestedRemedy

on pg 196 line 12 change:
"a registered ONU shall accept all envelopes" to
"a registered ONU accepts all envelopes"

Change Table 144-1 as shown in remein_3ca_1_0719.pdf

Update PICS accordingly.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Implement changes per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_9_0719.pdf, with reasons for changes in
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_8_0719.pdf.

Once changes to text are made, update PICS, removing items LL1a, LL1b, and LL2. Insert new PICS 144.5.4.2 per
http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/hajduczenia_3ca_2_0719.pdf.

Change also "configured by management" to "assigned to this ONU by management" after implementing previous contributions.

Cl **144**   *SC* **144.3.5**   *P* **196**   *L* **14**   # 345

Laubach, Mark   Broadcom

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

First list item ends in a ";", the other items have no ending punctuation.

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line endings

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove ";"

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 82 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.5**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.6**   *P* **196**   *L* **27**   # 210

Remein, Duane   Futurewei Technologies, Inc.

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

There are several disagreements between the text and Figure 144-11.

The same issues exists on pg 232 / Fig 144-30. and in Cl 144.4.3 pg 232 / Fig 144-30

SuggestedRemedy

In text   In Figure
DestinationAddress   Destination Address
SourceAddress   Source Address
OperandList   Operand List

Change Figures to agree with the text (assuming these are considered variables, otherwise it might be easier to change the text)

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.6**   *P* **196**   *L* **35**   # 40

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "For MPCPDUs originating at the OLT, this can be the address of" to "For MPCPDUs originating at the OLT, this may be the address of"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.6.1**   *P* **197**   *L* **1**   # 346

Laubach, Mark   Broadcom

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

Move the page break from before this line to after this paragraph. The preceeding page looks like it is missing information at the bottom of the page.

SuggestedRemedy

Editor to choose.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Move the page break from before this line to after this paragraph.

Cl **144**   *SC* **144.3.6.1**   *P* **197**   *L* **28**   # 41

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "Up to seven envelope allocations can be carried" to "Up to seven envelope allocations may be carried"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here

---

Cl **144**   *SC* **144.3.6.1**   *P* **197**   *L* **48**   # 211

Remein, Duane   Futurewei Technologies, Inc.

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

We seem to have lost the definition of StartTime.

SuggestedRemedy

Add after ChannelMap description
"— StartTime:
This 32-bit unsigned integer value represents the start time of the transmission window (burst), expressed in the units of EQT. The start time is compared to the <I>LocalTime</I>, to correlate the start of the grant."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Per comment, but StartTime should be in italics. No comma after LocalTime.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 83 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.6.1**   9/17/2019 11:11:44 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.6.1**   *P* **198**   *L* **20**   # 212

Remein, Duane   Futurewei Technologies, Inc.

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

Here we use the phrase "The value of 0 in this field signifies an empty ..." on pg 200 line 10 we use "The value of zero in this field signifies an empty ..." meanwhile we have a good constant defined for this - ESC_PLID.

SuggestedRemedy

Change both locations to "When this field is set to the value of ESC_PLID then it signifies an empty ..."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change both locations to "When this field is set to the value of ESC_LLID (see Table 144-1) then it signifies an empty ..."

Cl **144**   *SC* **144.3.6.2**   *P* **199**   *L* **40**   # 42

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **R**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "Up to seven LLIDs can be reported by a single" to "Up to seven LLIDs may be reported by a single"

Response   *Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here

Cl **144**   *SC* **144.3.6.2**   *P* **199**   *L* **47**   # 213

Remein, Duane   Futurewei Technologies, Inc.

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

The description for the timestamp field is repeated 7x. We don't do this for other variable definitions
197/36
199/47
201/13
203/4
204/41
206/4
209/1

Similar situation exist for other fields.

SuggestedRemedy

Remove the description for all but the first instance of this field (pg 197 line 36). Note that the first instance of this is generic and does not mention OLT or ONU (which is good). Add a cross reference to the first definition instance "See 144.3.6.1" (with a live link of course).

Do the same for the following field def's (pg/line fieldname xRef):
200/9 LLID "See 144.3.6.1"
206/9 ChannelMap "See 144.3.6.1"
207/38 SP1Length "See 144.3.6.4"
207/42 SP2Length "See 144.3.6.4"
207/46 SP3Length "See 144.3.6.4"

Response   *Response Status* **C**

REJECT.

Comment type changed to "T"

- Definitions of ChannelMap are different for GATE and DISCOVERY MPCPDUs
- Definitions of timestamp should be corrected and will therefore be different.
- Definitions of LLID are different for GATE and REPORT MPCPDUs
- Definitions of SPnLength are different in DISCOVERY and REGISTER MPCPDUs

Timestamps in GATEs are not the same as the content of MPCP Local time counter. Each timestamp is pre-compensated by the RTT value of the destination ONU.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.6.2**

Page 84 of 103
9/17/2019 11:11:44 AM

Cl **144**   *SC* **144.3.6.2**   *P* **200**   *L* **2**   # 214

Remein, Duane   Futurewei Technologies, Inc.

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

We should make it clear that GLIDs are not included in the NonEmptyQueues count.

SuggestedRemedy

After "The number of LLIDs" add " (PLID, MLID, and ULIDs)"

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Comment type changed to "T"

Cl **144**   *SC* **144.3.6.3**   *P* **201**   *L* **6**   # 215

Remein, Duane   Futurewei Technologies, Inc.

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

The variable name Timestamp should not cross the line

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.6.3**   *P* **201**   *L* **22**   # 347

Laubach, Mark   Broadcom

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

In tables in this subclause, there should be some consistency on whether to use a period at the end of an item in the Comment column. For example, in some cases "Ignored on reception" has an ending period, in other tables, it does not. Suggest being consistent across this subclause for those table Comments that read like a statement.

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line endings

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove periods within tables when a non-complete sentence is used.

Cl **144**   *SC* **144.3.6.3**   *P* **201**   *L* **31**   # 216

Remein, Duane   Futurewei Technologies, Inc.

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

PendingEnvelopes is an 8-bit value in the text but a 16 bit field in Fig 144-14 whereas EchoPendingEnvelopes is only 8-bits in both text and fig 144-15 (pg 203/204),
At the very lease these should agree.
Should we consider increasing the maximum size of PendingEnvelopes? This seemed like a reasonable size 10 years ago for pending grants but maybe not now.

SuggestedRemedy

Increase the size of these to a 10 bits. (4 x larger)
Likewise increase size of EchoPendingEnvelopes on pg 203 line 33 and in Figure 144-15 (adjust Pad to 27 also).

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "This is an unsigned 8-bit value signifying the maximum number of envelope allocations" to "This is an unsigned 16-bit value signifying the maximum number of envelope allocations"

Change "This is an unsigned 8-bit value holding the number of envelope descriptors" to "This is an unsigned 16-bit value holding the number of envelope descriptors"

In Figure 144–15, change size of EchoPendingEnvelopes from 1 to 2, and decrease pad from 28 to 27.

Cl **144**   *SC* **144.3.6.3**   *P* **202**   *L* **22**   # 458

Nicholl, Shawn   Xilinx

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

In "Figure 144-14 - REGISTER_REQ MPCPDU" unexpected use of hyphen. Contrast with "Figure 103-26 - REGISTER_REQ MPCPDU" in existing 802.3-2018 which shows "Length/Type = 0x8808" and "Opcode = 0x0004". There are other figures in the document with unexpected hyphen (eg. Figure 144-30, 144-31, 144-32).

SuggestedRemedy

Remove the hyphen from the figures.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #488.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 85 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.6.3**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**　　*SC* **144.3.6.4**　　　　*P* **202**　　*L* **49**　　# 217

Remein, Duane　　　　　　　　Futurewei Technologies, Inc.

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

Is "destination address" the same as "Destination Address" and "DestinationAddress"?

SuggestedRemedy

replace with "DestinationAddress"

Response　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　*SC* **144.3.6.4**　　　　*P* **203**　　*L* **11**　　# 218

Remein, Duane　　　　　　　　Futurewei Technologies, Inc.

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

PLID has already been introduced.

SuggestedRemedy

Change
"physical layer identifier (PLID, see 144.3.4.1)" to
"PLID (see 144.3.4.1)"

Response　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　*SC* **144.3.6.4**　　　　*P* **203**　　*L* **14**　　# 219

Remein, Duane　　　　　　　　Futurewei Technologies, Inc.

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

MLID has already been introduced.

SuggestedRemedy

Change:
"management link identifier (MLID, see 144.3.4.2)" to
"MLID, (see 144.3.4.2)"

Response　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　*SC* **144.3.6.5**　　　　*P* **204**　　*L* **39**　　# 108

Anslow, Pete　　　　　　　　Ciena

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

"Figure 144-14" should be a cross-reference.
Likewise for "Figure 144-16" on page 208, line 52

SuggestedRemedy

Change "Figure 144-14" and "Figure 144-16" on page 208, line 52 to be cross-references.

Response　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　*SC* **144.3.6.6**　　　　*P* **206**　　*L* **17**　　# 220

Remein, Duane　　　　　　　　Futurewei Technologies, Inc.

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

Elsewhere (ex. when assigning timestamp) we use LocalTime not local clock. It would be better if we were consistent.

SuggestedRemedy

Change "the local clock" to "LocalTime" (in italics)

Response　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　*SC* **144.3.6.6**　　　　*P* **206**　　*L* **40**　　# 43

Hajduczenia, Marek　　　　　　Charter Communications

Comment Type　**ER**　　　*Comment Status*　**A**　　　　　*can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

In table 144-7, change all instance of "OLT cannot receive" to "OLT is not capable of receiving" and "OLT can receive" to "OLT is capable of receiving"

Response　　　　　　*Response Status*　**C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line
Cl **144**
SC **144.3.6.6**
Page 86 of 103
9/17/2019 11:11:45 AM

Cl **144**   *SC* **144.3.6.6**   *P* **207**   *L* **19**   # 221

Remein, Duane   Futurewei Technologies, Inc.

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

Improper left margin. Reset para style to T,text

SuggestedRemedy

per comment

Proposed Response   *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

This is a continuation of text defining DiscoveryInfo field.

Cl **144**   *SC* **144.3.6.6**   *P* **207**   *L* **20**   # 325

Lynskey, Eric   Broadcom

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

The draft makes it very clear how the ONU should react when an OLT advertises multiple speeds during a discovery attempt. There is no description of how the ONU should handle a case when multiple coexistence types are advertised. It can be left to the ONU to decide.

SuggestedRemedy

Remove the second two sentences of the paragraph and replace with: The OLT MPMC client may allow a concurrent registration of ONUs with different rates by setting both bits 5 and 6 to 1. The processing of DiscoveryInfo flags by the ONU and the ONU behavior in dual-rate systems is further specified in 144.3.9. The OLT MPMC client may also allow a concurrent registration of ONUs with different coexistence options by setting both bits 14 and 15 to 1. For ONUs that support both coexistence types, the choice of which type to attempt to register is implementation dependent.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Minor editorial tweaks

Remove the second two sentences of the paragraph and replace with: "The OLT MPMC client may allow a concurrent registration of ONUs with different rates by setting both bits 5 and 6 to 1. The processing of DiscoveryInfo flags by the ONU and the ONU behavior in dual-rate systems is further specified in 144.3.9. The OLT MPMC client may also allow a concurrent registration of ONUs with different coexistence options by setting both bits 14 and 15 to 1. For ONUs that support both coexistence types, the choice of which type to attempt to register is implementation-dependent."

Cl **144**   *SC* **144.3.6.7**   *P* **208**   *L* **42**   # 222

Remein, Duane   Futurewei Technologies, Inc.

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

This statement is misleading "Generally, the SYNC_PATTERN MPCPDUs are transmitted in envelopes with the LLID equal to DISC_PLID (see 144.3.5)." as it may not be the general case but does describe a required case for unregistered ONUs. Subsequent statement in this section contradicts the "Generally" phrasing.

SuggestedRemedy

Change the statement as follows:
"The SYNC_PATTERN MPCPDUs are transmitted in envelopes with the LLID equal to DISC_PLID (see 144.3.5) to allow unregistered ONUs to obtain the synchronization pattern."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the statement as follows:
"As part of the Discovery Process, the SYNC_PATTERN MPCPDUs are transmitted in envelopes with the LLID equal to DISC_PLID (see 144.3.5) to allow unregistered ONUs to obtain the synchronization pattern."

Cl **144**   *SC* **144.3.6.7**   *P* **208**   *L* **52**   # 348

Laubach, Mark   Broadcom

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

"Figure 144-16" needs to be a proper cross reference.

SuggestedRemedy

Make it so.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **34**   # 299

Wienckowski, Natalie   General Motors

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

There is a reference to a place in this document that is red text and does not have a hyperlink.

SuggestedRemedy

Change 141.1.3 to a Cross-Reference.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #223

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.7**

Page 87 of 103
9/17/2019 11:11:45 AM

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **34**   # 7

Hajduczenia, Marek   Charter Communications

Comment Type **E**   *Comment Status* **A**   *bucket*
    Reference in red?

SuggestedRemedy
    Change to 142.1.3 and make it live

Response   *Response Status* **C**
    ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **34**   # 223

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **E**   *Comment Status* **A**   *bucket*
    Why is this a ref to 143.1.3 and in red font?

SuggestedRemedy
    make this a live link to 142.1.3

Response   *Response Status* **C**
    ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **34**   # 349

Laubach, Mark   Broadcom

Comment Type **E**   *Comment Status* **A**   *bucket*
    Turn "143.1.3" into a proper cross reference or remove the Red text.

SuggestedRemedy
    Make it so.

Response   *Response Status* **C**
    ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **34**   # 274

Marris, Arthur   Cadence Design Systems

Comment Type **E**   *Comment Status* **A**   *bucket*
    Fix cross reference (see 143.1.3)

SuggestedRemedy
    Fix cross reference (see 143.1.3)

Response   *Response Status* **C**
    ACCEPT IN PRINCIPLE.

    See comment #223

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **38**   # 224

Remein, Duane   Futurewei Technologies, Inc.

Comment Type **T**   *Comment Status* **A**
    We should be clear that the Discovery process is aborted only if a SYNC_PATTERN is
    receive for the DISC_PLID.

SuggestedRemedy
    Change:
    "If a SYNC_PATTERN MPCPDU is received …" to
    "If a SYNC_PATTERN MPCPDU directed to the DISC_PLID is received …"

Response   *Response Status* **C**
    ACCEPT IN PRINCIPLE.

    Changes per comment.

    Also implement changes per
    http://www.ieee802.org/3/ca/public/meeting_archive/2019/07/kramer_3ca_7_0719.pdf

---

Cl **144**   *SC* **144.3.7**   *P* **210**   *L* **46**   # 8

Hajduczenia, Marek   Charter Communications

Comment Type **E**   *Comment Status* **A**   *bucket*
    Compound adjective "16 bit wide"

SuggestedRemedy
    Change to "16-bit wide"

Response   *Response Status* **C**
    ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 88 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.7**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**　　　*SC* **144.3.7**　　　　　　*P* **210**　　　*L* **50**　　　　# 225

Remein, Duane　　　　　　　　　　Futurewei Technologies, Inc.

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

This is the only instance of the term off-line. It is easier on the reader if we are consistent in our use of terms. Unregistered is used at least 22 times, newly connected is use 3x.

SuggestedRemedy

Replace with "Off-line" and "newly connected" with "unregistered". Note that on pg 210 line 26 just strike "newly connected or".

Response　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "off-line" to "unregistered".

Cl **144**　　　*SC* **144.3.7**　　　　　　*P* **211**　　　*L* **1**　　　　# 303

Kramer, Glen　　　　　　　　　　Broadcom

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

"Each ONU waits a random amount of time before transmitting the REGISTER_REQ MPCPDU that is shorter than the length of the discovery window."

A very confusing sentence. What is shorter then the discovery window, the REGISTER_REQ MPCPDU or the random amount of time?

SuggestedRemedy

Split this into two sentences:
"Each ONU waits a random amount of time before transmitting the REGISTER_REQ MPCPDU. The wait time together with the REGISTER_REQ MPCPDU transmission time (including optical overhead, burst synchronization sequence, and FEC paity data) do not exceed the length of the discovery window."

Response　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Split this into two sentences:
"Each ONU waits a random amount of time before transmitting the REGISTER_REQ MPCPDU. The wait time together with the REGISTER_REQ MPCPDU transmission time (including optical overhead, burst synchronization sequence, and FEC parity data) does not exceed the length of the discovery window."

Cl **144**　　　*SC* **144.3.7**　　　　　　*P* **211**　　　*L* **3**　　　　# 9

Hajduczenia, Marek　　　　　　　Charter Communications

Comment Type **E**　　　*Comment Status* **R**　　　　　*can-vs-may*

Can versus may

SuggestedRemedy

Change "REGISTER_REQ MPCPDUs can be received by the OLT" to "REGISTER_REQ MPCPDUs may be received by the OLT"

Response　　　　*Response Status* **C**

REJECT.

"Can" (i.e., "is able" or "is capable") is correct and is intended. "May" (i.e., "is allowed" or "is permitted") is semantically wrong here.

Cl **144**　　　*SC* **144.3.7**　　　　　　*P* **211**　　　*L* **3**　　　　# 44

Hajduczenia, Marek　　　　　　　Charter Communications

Comment Type **ER**　　　*Comment Status* **A**　　　　　*can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "valid REGISTER_REQ MPCPDUs can be received" to "valid REGISTER_REQ MPCPDUs may be received"

Response　　　　*Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general　　　　*Cl* **144**　　　Page 89 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　*SC* **144.3.7**　　　9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.7**   *P* **211**   *L* **9**   *#* 226

Remein, Duane   Futurewei Technologies, Inc.

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

It is not clear to me why we expect the ONU to lie to the OLT as implied by this statement "Note that even though a compliant ONU is not prohibited from supporting more than one data rate in any transmission channel, it is expected that a single supported data rate for upstream and downstream channel is indicated in the RegisterRequestInfo field."
While I agree that an ONU should only attempt to register at a single rate it should advertise it's capabilities truthfully.
The description of the information in the RegisterRequestInfo seems to begin with "Included in the REGISTER_REQ MPCPDU is the ONU's MAC address and ..." at line 3, which would make a better para break than this misguided note.

SuggestedRemedy

Start a new para beginning at line 3 "Included in the REGISTER_REQ MPCPDU is the ONU's MAC address and …" and combine with the para starting "Note even thought ..."

Change:
"Note that even though a compliant ONU is not prohibited from supporting more than one data rate in any transmission channel, it is expected that a single supported data rate for upstream and downstream channel is indicated in the RegisterRequestInfo field." to
"Note that even though a compliant ONU is not prohibited from supporting more than one data rate in any transmission channel, it is expected that an ONU only attempt to register at a single rate as indicated in the RegisterRequestInfo field bits 5 and 6."

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:
"Note that even though a compliant ONU is not prohibited from supporting more than one data rate in any transmission channel, it is expected that a single supported data rate for upstream and downstream channel is indicated in the RegisterRequestInfo field."
to
"Note that even though a compliant ONU may be capable of supporting more than one data rate in any transmission channel, it is expected that an ONU only attempts to register at a single rate as indicated in the RegisterRequestInfo field bits 5 and 6."

Additionally, in the sentence "Additionally, a registering ONU notifies the OLT of its transmission capabilities in the upstream and downstream channels by setting appropriately the flags in the RegisterRequestInfo field, as specified in 144.3.6.3.", replace "in the upstream and downstream channels" with "in the current upstream channel"

Cl **144**   *SC* **144.3.7**   *P* **211**   *L* **13**   *#* 10

Hajduczenia, Marek   Charter Communications

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

Wrong field names

SuggestedRemedy

Change "the Laser On Time and Laser Off Time fields." to "the <i>LaserOnTime</i> and <i>LaserOffTime</i> fields." - make sure names are italicized

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **211**   *L* **26**   *#* 45

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "the ONU is registered and normal message traffic can begin" to "the ONU is registered and normal message traffic may begin"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.7**   *P* **211**   *L* **32**   *#* 46

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "The ONU can then reregister" to "The ONU may then reregister"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 90 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.7**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.7**   *P* **211**   *L* **33**   # 324

Lynskey, Eric   Broadcom

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

Reregister and Deregister are not valid flags.

SuggestedRemedy

Change to, "...REGISTER_MPCPDU may indicate a value, NACK, that if specified forces the receiving ONU into reregistering." In the next sentence, change to "...REGISTER_REQ MPCPDU contains the NACK bit…"

Response   *Response Status*   **C**

ACCEPT.

Cl **144**   *SC* **144.3.7.1**   *P* **213**   *L* **14**   # 351

Laubach, Mark   Broadcom

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

The "u" in "us" is not a symbol.

SuggestedRemedy

Should be the proper mu symbol.

Response   *Response Status*   **C**

ACCEPT.

Cl **144**   *SC* **144.3.7.3**   *P* **213**   *L* **38**   # 227

Remein, Duane   Futurewei Technologies, Inc.

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

The description of ChState does not sound like an integer.

SuggestedRemedy

Change type to "8-bit Boolean array"

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

Change to "Array of eight Boolean values"

Cl **144**   *SC* **144.3.7.3**   *P* **213**   *L* **51**   # 11

Hajduczenia, Marek   Charter Communications

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

Undefined variables / constants? MissedReportCount, MISSED_REPORT_LIMIT

SuggestedRemedy

Need to be added and defined

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

MISSED_REPORT_LIMIT
    Type: Integer
    Description: This constant represents the number of missed REPORT MPCPDUs that cause the OLT to deregister the given ONU.
    Value: 8

MissedReportCount
    Type: 8-bit unsigned integer
Description: This variable counts the number of missed REPORT MPCPDUs from a given PLID. A REPORT MPCPDU is considered missing if the OLT has allocated an envelope for the PLID and has not received any REPORT MPDCPDUs in the corresponding PLID envelope. The MissedReportCount counter is incremented by one per each PLID envelope that did not contain any REPORT MPCPDUs, regardless of the length of that envelope. If a REPORT MPCPDU is received from a given PLID, the value of MissedReportCount is reset to zero.

Cl **144**   *SC* **144.3.7.3**   *P* **214**   *L* **4**   # 317

Lynskey, Eric   Broadcom

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

There is no way for the ONU to send a register ack once it has been registered. Figure 144-22 shows that the ONU can only send a register request once it has reached the REGISTERED state. Once the REGISTERED state in Figure 144-21 has been reached, only the other conditions (1, 2, 4) are expected.

SuggestedRemedy

Replace MsgRegisterAck with MsgRegisterReq in two places. Also replace Deregister with NACK.

Response   *Response Status*   **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.7.3**

Page 91 of 103
9/17/2019 11:11:45 AM

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **7**　　　# 323

Lynskey, Eric　　　　　　　　　　　　Broadcom

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

Deregister is not a valid flag.

SuggestedRemedy

Change to NACK.

Response　　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **9**　　　# 228

Remein, Duane　　　　　　　　　　Futurewei Technologies, Inc.

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

The description of GrantEndTime does sound like an integer.

SuggestedRemedy

Change type to "32-bit unsigned integer"

Response　　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **36**　　　# 229

Remein, Duane　　　　　　　　　　Futurewei Technologies, Inc.

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

The description of MaxDelay does sound like an integer.

SuggestedRemedy

Change type to "32-bit unsigned integer"

Response　　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **37**　　　# 47

Hajduczenia, Marek　　　　　　　　Charter Communications

Comment Type　**ER**　　　*Comment Status*　**A**　　　　　　　　　*can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "the maximum delay the ONU can apply to" to "the maximum delay the ONU may apply to"

Response　　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **44**　　　# 391

Dawe, Piers　　　　　　　　　　　　Mellanox

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

10.3125 Gb/s

SuggestedRemedy

10.3125 GBd. Also 25.78125 Gb/s -> GBd

Response　　　　　　　*Response Status*　**C**

ACCEPT.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **214**　　　*L* **49**　　　# 300

Wienckowski, Natalie　　　　　　　General Motors

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

Missing non-breaking spaces in number that have 4 or more digits to the right of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual.

SuggestedRemedy

Change: 25.78125
To: 25.781 25

Proposed Response　　　　*Response Status*　**Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **144**　　　*SC* **144.3.7.3**　　　　　*P* **215**　　　*L* **1**　　　# 48

Hajduczenia, Marek　　　　　　　　Charter Communications

Comment Type　**ER**　　　*Comment Status*　**A**　　　　　　　　　*can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "this variable can take the following values" to "this variable takes the following values"

Response　　　　　　　*Response Status*　**C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general　　　　*Cl* **144**　　　Page 92 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected　　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　　*SC* **144.3.7.3**　　　9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.7.3**   *P* **215**   *L* **21**   # 230

Remein, Duane   Futurewei Technologies, Inc.

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

This definition of RegAllowed disallows an ONU capable of both 10 & 25 G rates from registering with an OLT that is also capable of both 10 & 25G rates at the 10G rate. There may be good reasons that we haven't thought of that would make such behavior beneficial. There are several solutions:
1) add a bit for 10G Discovery Window for single rate ONUs only.
2) add a note indicating that the OLT may lie to the ONU regarding capabilities to force registration at 10G rate.

SuggestedRemedy

I would prefer option 1.
Reflect any changes in 144.3.9 also

Response   *Response Status* **C**

REJECT.

To allow ONU deterministic behavior, ONU is required to register at the highest rate supported by both the OLT and this ONU.

The OLT doesn't lie to the ONU. It can choose what capability to advertize (see 144.3.9)

To force 10G- and 25G-capable ONUs to register at 10G, the OLT "temprarily disables" its 25G receive capability, so option 2 is employed. This is the same method that is employed with 10G and 1G capable ONUs in 802.3av.

No changes required.

Cl **144**   *SC* **144.3.7.3**   *P* **215**   *L* **45**   # 231

Remein, Duane   Futurewei Technologies, Inc.

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

The description of RegStart does sound like an integer.

SuggestedRemedy

Change type to "32-bit unsigned integer"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.7.3**   *P* **215**   *L* **53**   # 232

Remein, Duane   Futurewei Technologies, Inc.

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

The description of SpSeq does sound like an integer.

SuggestedRemedy

Change type to "32-bit unsigned integer"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change type to "2-bit unsigned integer"

Cl **144**   *SC* **144.3.7.4**   *P* **216**   *L* **12**   # 352

Laubach, Mark   Broadcom

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

Of the items in the a) to f) list, one ends in a period, the rest do not. Use consistent lines endings.

SuggestedRemedy

Editor to choose how to have consistent (or appropriate) line endings

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "." at the end of bullet items

Cl **144**   *SC* **144.3.7.5**   *P* **216**   *L* **48**   # 233

Remein, Duane   Futurewei Technologies, Inc.

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

No variable name MsgRegsiter is used. Maybe should be MsgRegister?

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.7.5**

Page 93 of 103
9/17/2019 11:11:45 AM

Cl **144**   *SC* **144.3.7.8**   *P* **218**   *L* **36**   # 234

Remein, Duane   Futurewei Technologies, Inc.

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

"Registered" should be in italics

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

Two instances

Cl **144**   *SC* **144.3.7.8**   *P* **219**   *L* **9**   # 235

Remein, Duane   Futurewei Technologies, Inc.

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

In valid symbol in exit criteria from WAIT_FOR_SYNC "msgSyndPattern.Index >>?<<
SpSeq

SuggestedRemedy

Replace "?" with less than or equal to symbol

Response   *Response Status* **C**

ACCEPT.

Replace "?" with "!=" (not equal)

Cl **144**   *SC* **144.3.7.8**   *P* **219**   *L* **9**   # 12

Hajduczenia, Marek   Charter Communications

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

Wrong symbol in line: "?"

SuggestedRemedy

Likely it is supposed to be "!="

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.7.8**   *P* **219**   *L* **36**   # 353

Laubach, Mark   Broadcom

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

In Figure 144-22, is there a blank line in the middle of the steps in COMMIT_DISC_ENV or
is something technical missing?

SuggestedRemedy

Verify if something missing, and if so fix it. If it is indeed a blank line consider removing.

Response   *Response Status* **C**

REJECT.

The empty line emphasizes the fact of filling two separate envelopes.

Cl **144**   *SC* **144.3.7.8**   *P* **219**   *L* **49**   # 316

Lynskey, Eric   Broadcom

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

In Figure 144-22, timestampDrift should be capitalized.

SuggestedRemedy

Change to TimestampDrift.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.8**   *P* **220**   *L* **3**   # 236

Remein, Duane   Futurewei Technologies, Inc.

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

see 1.4.278 should be a live link

SuggestedRemedy

per comment

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 94 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.8**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.3.8**   *P* **220**   *L* **8**   # 237

Remein, Duane   Futurewei Technologies, Inc.

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

It would be useful to the reader to refer back to Figure 144-3 & 144-4.

SuggestedRemedy

At the end of the first para add: "The following description of the granting process makes use of the interfaces and functional blocks found in Figure 144-3 and Figure 144-4.

Response   *Response Status* **C**

ACCEPT.

Comment type changed to "T"

Cl **144**   *SC* **144.3.8.1**   *P* **220**   *L* **36**   # 238

Remein, Duane   Futurewei Technologies, Inc.

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

The description of MPCP_PROCESS_DLY and GATE_TIMEOUT does sound like an integer.

SuggestedRemedy

Change type to "32-bit unsigned integer"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.8.1**   *P* **220**   *L* **40**   # 301

Wienckowski, Natalie   General Motors

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

Use a non-breaking space in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual, not a comma.

SuggestedRemedy

Change: 6,400
To: 6 400 or 6400 as 4 digit numbers don't have to have the space unless they are in a column with larger numbers.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **144**   *SC* **144.3.8.1**   *P* **220**   *L* **47**   # 302

Wienckowski, Natalie   General Motors

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

Use a non-breaking space in number that have 4 or more digits to the left of the decimal per 13.3.2 of the 2014 IEEE-SA Style Manual, not a comma.

SuggestedRemedy

Change: 19,531,250
To: 19 531 250

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **144**   *SC* **144.3.8.1**   *P* **220**   *L* **47**   # 239

Remein, Duane   Futurewei Technologies, Inc.

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

Assuming GATE_TIMEOUT really is a constant as implied then 50 ms is not the default value, it is the only allowed value.

SuggestedRemedy

Strike ", default value"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.8.1**

Page 95 of 103
9/17/2019 11:11:45 AM

Cl **144**   *SC* **144.3.8.3**   *P* **221**   *L* **4**   # 240

Remein, Duane   Futurewei Technologies, Inc.

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

This variable is stated as a Boolean array and it is confusing to refer to it as "A Boolean that represents"

SuggestedRemedy

Change:
"A Boolean that represents" to
"Each element in this Boolean array represents"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use this text:
"Each element of this array is associated with the respective MCRS channel and represents whether..."

Strike the last sentence

Cl **144**   *SC* **144.3.8.3**   *P* **221**   *L* **22**   # 241

Remein, Duane   Futurewei Technologies, Inc.

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

In all other variable definitions we give the size of the variable or field, we should here also.

SuggestedRemedy

Change ass follows:
"LLID: LLID" -> "LLID: the 16-bit LLID"
StartTime: Start time" -> "StartTime: the 32-bit start time"
"Length: The length" -> "Length: the 22-bit length"
observe proper italics format.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.8.6**   *P* **222**   *L* **22**   # 305

Kramer, Glen   Broadcom

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

"An array 16-bit elements" is missing "of"

SuggestedRemedy

Change to "An array of 16-bit elements"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.8.7**   *P* **222**   *L* **33**   # 242

Remein, Duane   Futurewei Technologies, Inc.

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

Given only one requirement maps to this clause there should ideally be only one shall statement.

SuggestedRemedy

Change:
"The OLT shall implement the GATE Generation state diagram as shown in Figure 144–23. A separate instance of the state diagram shall be implemented per each registered ONU (PLID)." to
"The OLT shall implement a separate instance for each registered ONU (PLID) of the GATE Generation state diagram as shown in Figure 144–23."
No change to PICS needed.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change:

"The OLT shall implement the GATE Generation state diagram as shown in Figure 144–23. A separate instance of the state diagram shall be implemented per each registered ONU (PLID)."

to

"The OLT shall implement an instance of the GATE Generation state diagram, as shown in Figure 144–23, per each registered ONU (PLID)."

Update PICS

Cl **144**   *SC* **144.3.8.8**   *P* **223**   *L* **40**   # 244

Remein, Duane   Futurewei Technologies, Inc.

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

There does not appear to be any field defined as MsgGate.ChMap

SuggestedRemedy

Change to MsgGate.ChannelMap (2x in this SD) as used elsewhere and defined in 144.3.6.1.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **144**
SC **144.3.8.8**

Page 96 of 103
9/17/2019 11:11:45 AM

Cl **144**   *SC* **144.3.8.8**   *P* **223**   *L* **40**   *#* 243

Remein, Duane   Futurewei Technologies, Inc.

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

Ampersand as an operator is not included in our list of conventions.

SuggestedRemedy

Use "AND"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.8.11**   *P* **226**   *L* **8**   *#* 13

Hajduczenia, Marek   Charter Communications

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

Undefined primitive: MPRS_CTRL?

SuggestedRemedy

Is MCRS_CTRL intended?

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.9.1**   *P* **227**   *L* **6**   *#* 14

Hajduczenia, Marek   Charter Communications

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

Table 144–9 has very inconsistent line width

SuggestedRemedy

Align with standard for 802.3 drafts

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.3.9.1**   *P* **227**   *L* **10**   *#* 245

Remein, Duane   Futurewei Technologies, Inc.

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

Allowing
15G-EP and 50G-EP
ON   ON
                        to cross the line is confusing.

SuggestedRemedy

ensure "EPON" appears on a single line

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 97 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.3.9.1**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.4.2**   *P* **229**   *L* **28**   # 246

Remein, Duane   Futurewei Technologies, Inc.

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

Shouldn't this be the "CCP Client" not the "MPMC Client" (at least per Figure 144-3, 4, 28 & 29)? This seems to be a common error throughout 144.4 however there also appear to be a few cases where MPCP Client is correct. Below is a list of suspect uses (pg/line & quote.
229/35 local MPMC Client,
229/37 OLT MPMC Client,
229/46 local MPMC Client,
230/17 MPMC Client initiates,
230/34 MPMC Client initiates,
231/3 MPMC Client initiates,
231/24 MPMC Client initiates,
231/37 MPMC Client may monitor,
231/39 MPMC Client may (this instance may be OK check carefully),
231/41 notify the MPMC Client,
231/44 the MPMC Client at the ONU.
238/25 MPMC Client and is processed

SuggestedRemedy

per comment
We could consider just changing the four figures as that would be less invasive than what is suggested in this comment. Note that CCP Client does not appear in the draft at this time (including top level layering diagrams such as 144-2).

Response   *Response Status*   **C**

ACCEPT IN PRINCIPLE.

This will require TF discussion. Generally, a client includes the name of a sublayer of which it is a client (we also use MAC Client and PMA Client). So, "MPMC Client" is correct for a client of Multi-Point MAC Control sublayer. Everywhere in text we use "MPMC Client" and never "MPCP Client" or "CCP Client". However, a few pictures label the boxes "MPCP Client" and "CCP Client". If we decide to reconcile these differences we can do one of two things:

1) Replace 36 occurences of "MPMC Client" with either "MPCP Client " or "CCP Client"
2) In Figures 144-3, -4, -10, -11, -28, -29, replace "MPCP Client" with "MPMC Client (MPCP)" and "CCP Client" with "MPMC Client (CCP)"

The Task Force decided to go with approach number 2.

Cl **144**   *SC* **144.4.2**   *P* **229**   *L* **44**   # 247

Remein, Duane   Futurewei Technologies, Inc.

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

Add clarification to the statement "Any non-persistent changes are reverted upon ONU reset and re-registration."

SuggestedRemedy

Add to the end of the sentence "(i.e., the channel reverts to it's default state)"

Proposed Response   *Response Status*   **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **144**   *SC* **144.4.2**   *P* **230**   *L* **1**   # 248

Remein, Duane   Futurewei Technologies, Inc.

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

Does one have to change both US & DS? Seems a bit onerous to me.

SuggestedRemedy

Change:
"enabling / disabling one of downstream and upstream channels" to
"enabling / disabling one of the downstream or upstream channels"

Response   *Response Status*   **C**

ACCEPT.

Cl **144**   *SC* **144.4.2.1**   *P* **230**   *L* **4**   # 249

Remein, Duane   Futurewei Technologies, Inc.

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

What prevents the OLT from persistently disabling the only DS channel an ONU has available and thereby breaking the ONU?

SuggestedRemedy

Add at the end of the para "The OLT shall not disable a downstream channel at the ONU if it is the single remaining enabled channel at that ONT"
Update PICS.

Response   *Response Status*   **C**

REJECT.

This would be a requirement to the MPMC Client (CCP), which is outside the scope of the standard. In general, we should not limit device capabilities, because an operator may make a mistake. Sometimes it may be necessary to disable all channels and brick the ONU in order to preserve the rest of EPON. NMS user interface usually have sufficient guards in place to prevent accidental misconfiguration.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 98 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.4.2.1**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.4.2.1**   *P* **230**   *L* **13**   # 319

Lynskey, Eric   Broadcom

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

It says in 144.1.4.1 that the definition and behavior of the MPMC Client is outside the scope of this standard. There is quite a bit of text in 144.4.2.1, 144.4.2.2, 144.4.2.3, and 144.4.2.4 that seems to describe the behavior of the MPMC Client. Specifically, there is text that says when the OLT starts and stops granting the ONU. A lot of the text in these subclauses is duplicated and not necessary.

SuggestedRemedy

Remove all text in 144.4.2.1 starting with page 230 line 13. Remove all text in 144.4.2.2 starting with page 230 line 32. Remove all text in 144.4.2.3 starting with page 231 line 1. Remove all text in 144.4.2.4 starting with page 231 line 22.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "shall" statemens from 144.4.2.3 and 144.4.2.1, and eliminate associated PICS.

This text is intended to be informative only. There are no requirements made.

Cl **144**   *SC* **144.4.2.1**   *P* **230**   *L* **19**   # 318

Lynskey, Eric   Broadcom

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

ccp_timer and CCP_RETRY_LIMIT not defined.

SuggestedRemedy

Remove steps i and ii in four places: 144.4.2.1, 144.4.2.2, 144.4.2.3, and 144.4.2.4.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.4.2.5**   *P* **231**   *L* **38**   # 250

Remein, Duane   Futurewei Technologies, Inc.

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

Grammar typo

SuggestedRemedy

change:
"allowing the ONU notify the OLT" to
"allowing the ONU to notify the OLT"

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.4.2.5**   *P* **231**   *L* **41**   # 320

Lynskey, Eric   Broadcom

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

Behavior of MPMC Client.

SuggestedRemedy

Remove all text in 144.4.2.5 beginning with line 41. Replace with: To notify the MPMC Client at the OLT about a local channel state change, the MPMC Client at the ONU may send an unsolicited CC_RESPONSE CCPDU to the OLT, indicating the new state of all of its downstream and upstream channels.

Response   *Response Status* **C**

REJECT.

This text is intended to be informative only. There are no requirements made.

Cl **144**   *SC* **144.4.3**   *P* **232**   *L* **7**   # 49

Hajduczenia, Marek   Charter Communications

Comment Type   **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "For CCPDUs originating at the OLT, this can be the" to "For CCPDUs originating at the OLT, this may be the"

Response   *Response Status* **C**

ACCEPT.

Page was wrong (233) and fixed (232)

Cl **144**   *SC* **144.4.3**   *P* **232**   *L* **16**   # 251

Remein, Duane   Futurewei Technologies, Inc.

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

Figure 144-30 does not include an "OperandList" as indicated by this text.

SuggestedRemedy

In Figure 144-30 change "Data/Reserved" to "OperandList/Reserved"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add additional field "OperandList"
Rename "Data/Reserved/Pad" into "Pad" (as it is done in Figure 144-11)

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 99 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.4.3**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.4.3.1**   *P* **233**   *L* **9**   # 252

Remein, Duane   Futurewei Technologies, Inc.

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

Opcode in Figures 144-31 & 32 do not agree with the text.

SuggestedRemedy

Align figures and text; CC_REQUEST should use Opcode 20 and CC_RESPONSE
Opcode 21 (text is correct).

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Opcodes are correct. The figures are wrong. 144-31 shows CC_RESPONSE instead of
CC_REQUEST and 144-32 shows the opposite. Use correct figures.

Cl **144**   *SC* **144.4.3.1**   *P* **233**   *L* **21**   # 321

Lynskey, Eric   Broadcom

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

If the intent is to reserve space for support of up to 16 channels in the future, the space in
the frame should be reserved for both downstream and upstream status.

SuggestedRemedy

In Figure 144-31, add 14 octets of Reserved following StatusUC1. Adjust the pad.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.4.3.1**   *P* **234**   *L* **14**   # 253

Remein, Duane   Futurewei Technologies, Inc.

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

What prevents the "previous persistent state" for one channel combined with "previous
persistent state" for another change from creating an ONU with all channels disabled and
thereby appear to be broken?

SuggestedRemedy

Add footnote to PersistenceFlag = 1
1 The ONU shall refuse any instruction that would result in persistently disabling all
channels in a given direction.

Response   *Response Status* **C**

REJECT.

ONU shall never refuse a command from the OLT (NMS), no matter what the
consequences to the ONU are. Any limitations, if needed, should be placed on the NMS,
not on the ONU.

Cl **144**   *SC* **144.4.3.2**   *P* **234**   *L* **42**   # 322

Lynskey, Eric   Broadcom

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

If the intent is to reserve space for support of up to 16 channels in the future, the space in
the frame should be reserved for both downstream and upstream actions.

SuggestedRemedy

In Figure 144-32, add 14 octets of Reserved following ActionUC1. Adjust the pad.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.4.4.1**   *P* **236**   *L* **11**   # 15

Hajduczenia, Marek   Charter Communications

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

Wrong table reference in CH_STATE_ABSENT, CH_STATE_DISABLED_REMOTE,
CH_STATE_ENABLED.

SuggestedRemedy

Change Table 144–11. to Table 144–12.

Response   *Response Status* **C**

ACCEPT.

Cl **144**   *SC* **144.4.4.4**   *P* **238**   *L* **23**   # 50

Hajduczenia, Marek   Charter Communications

Comment Type **ER**   *Comment Status* **A**   *can-vs-may*

"can" used and not intended per Style Guide

SuggestedRemedy

Change "(array element) can be accessed" to "(array element) is accessed"

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **144**   Page 100 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **144.4.4.4**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **144**   *SC* **144.5.4.4**   *P* **242**   *L* **53**   # 354

Laubach, Mark   Broadcom

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

Tables in the PICS need bottom ruling enabled.

SuggestedRemedy

Make it so.

Response   *Response Status*   **C**

ACCEPT.

Cl **149**   *SC* **149.1.3**   *P* **71**   *L* **27**   # 476

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **D**   *wrong-ballot*

PCS layer label is inconsistent with Figure 44-1 and Figure 125-1.

SuggestedRemedy

Change: "RS-FEC PCS"
To: "64B/65B RS-FEC PCS"

Proposed Response   *Response Status*   **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.1.3.1**   *P* **72**   *L* **38**   # 479

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **D**   *wrong-ballot*

Missing dashes.

SuggestedRemedy

Change: "3260 bit block"
To: "3260-bit block", in 2 locations

Proposed Response   *Response Status*   **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.3.2.2.4**   *P* **89**   *L* **24**   # 468

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **D**   *wrong-ballot*

Figure 149-6 lacks arrow ends on TXD<32> and TXD<63>.

SuggestedRemedy

Add arrow ends on TXD<32> and TXD<63>.

Proposed Response   *Response Status*   **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.3.9**   *P* **120**   *L* **20**   # 477

Brandt, David   Rockwell Automation

Comment Type   **E**   *Comment Status*   **D**   *wrong-ballot*

Missing space

SuggestedRemedy

Change: "OAM10-bit"
To: "OAM 10-bit"

Proposed Response   *Response Status*   **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

TYPE: TR/technical required   ER/editorial required   GR/general required   T/technical   E/editorial   G/general   *Cl* **149**   Page 101 of 103
COMMENT STATUS: D/dispatched   A/accepted   R/rejected   RESPONSE STATUS: O/open   W/written   C/closed   U/unsatisfied   Z/withdrawn   *SC* **149.3.9**   9/17/2019   11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **149**   *SC* **149.3.9.3**   *P***128**   *L***1**   *#* 478

Brandt, David   Rockwell Automation

Comment Type **E**   *Comment Status* **D**   *wrong-ballot*

Should this refer to the "State Variables to OAM Register Mapping" that were edited in Clause 97 to be BASE-T1? Why do they need to appear twice?

SuggestedRemedy

Refer to the modified Clause 97 Table 97-6 for the BASE-T1 mappings and then define the additional mappings for MultiGBASE-T1.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.5.3.1**   *P***160**   *L***11**   *#* 469

Brandt, David   Rockwell Automation

Comment Type **T**   *Comment Status* **D**   *wrong-ballot*

I don't see where the frame error ratio comes from. If I assume this is actual MAC data with addresses and FCS, I get FER = 1e-12 * (800 + 22) * 8 = 6.6e-9. I note that 149.5.3.2 does not add any MAC farme overhead.

SuggestedRemedy

Please check the math or describe better.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.5.3.2**   *P***160**   *L***20**   *#* 470

Brandt, David   Rockwell Automation

Comment Type **T**   *Comment Status* **D**   *wrong-ballot*

149.5.3.1 seem inconsistenmt. 149.5.3.1 has "frame error ratio", but wouldn't these frames crossing XGMII also be counted as 149.5.3.2 "frame loss ratio" when they get to the MAC? There should be no further correction after RS-FEC. Both use the same link segment specified in 149.7.

SuggestedRemedy

Consider whether the same terminology, packet sizes and measurement points can be used.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

Cl **149**   *SC* **149.9.2.2**   *P***169**   *L***41**   *#* 471

Brandt, David   Rockwell Automation

Comment Type **T**   *Comment Status* **D**   *wrong-ballot*

This paragraph has 2 shalls that apply to entire products. The seems out of our scope.

SuggestedRemedy

Suggest the "shalls" be replaced with text in the spirit of the last sentence of the paragraph.
Change1st: "shall", To: "is expected be able to"
Change 2nd: "shall be tested", To: "is expected to allow products to be tested"
Delete: ES4 and ES5.

Proposed Response   *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

I do not think this draft includes clause 149. Wrong project?

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **149**   Page 102 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **149.9.2.2**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line

Cl **Content**   *SC* **Contents**   *P* **20**   *L* **46**   # 428

Dawe, Piers   Mellanox

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

Annex 31A (normative) Annex 142A (normative) 142A.1Example of initial control seed
sequence
2A.2QC-LDPC FEC Encoder Test Vectors

SuggestedRemedy

Sort out formatting / document structure

Response   *Response Status* **C**

ACCEPT.

Cl **TOC**   *SC* **TOC**   *P* **20**   *L* **46**   # 271

Kramer, Glen   Broadcom

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

TOC entries 31A, 142A and 142A.1 all got concatenated into a single entry

SuggestedRemedy

Fix TOC format

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **TOC**   Page 103 of 103
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **TOC**   9/17/2019 11:11:45 AM
SORT ORDER: Clause, Subclause, page, line