

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 1 SC 1.4 P20 L17 # 550
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Clarify editorial instruction
 SuggestedRemedy
 Change "Change definition 1.4.278" to read "Change definition 1.4.278 as shown below"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 1 SC 1.4.129a P21 L7 # 520
 Wey, Jun Shan ZTE TX
 Comment Type T Comment Status R
 From this definition, it is clear that N is either 1 or 2. However, in various places in the draft, examples of N=4 is implied. The document should be made consistent regarding the number of channels.
 SuggestedRemedy
 Add the following clarification in this definition, or elsewhere as appropriate:
 "Values of N equal to 1 and 2 are normative in this standard. Other values of N are sometimes shown as examples for illustration purpose only."
 Response Response Status C
 REJECT.
 Comment type changed from E to T
 Nx25G-EPON is just a collective name, nothing more, implying multiple 25G lanes. No changes needed.

Cl 1 SC 1.4.244a P21 L11 # 417
 Remein, Duane Huawei
 Comment Type TR Comment Status A
 This definition misses the fact that an envelope is channel specific.
 SuggestedRemedy
 Change from:
 "In Multi-Channel Reconciliation Sublayer (MCRS, see Clause 143), an envelope encapsulates data belonging to a specific LLID, i.e., the data or idles sourced from a specific MAC instance." to:
 "In Multi-Channel Reconciliation Sublayer (MCRS, see Clause 143), an envelope encapsulates data belonging to a specific LLID being transmitted on a specific MCRS channel, i.e., the data or idles sourced from a specific MAC instance and sent over a specific MCRS channel."
 Response Response Status C
 ACCEPT.

Cl 1 SC 1.4.244b P21 L16 # 552
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 There are only two added definitions that do not start with a complete sentence.
 SuggestedRemedy
 Change "a transmission window allocated to a single LLID (including GLID)" to "In Clause 143, an envelope allocation represents a transmission window allocated to a single LLID (including GLID)"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 1 SC 1.4.313 P20 L31 # 551
 Hajduczenia, Marek Charter Communicatio
 Comment Type T Comment Status D bucket
 Clarification on what "it" means in the context
 SuggestedRemedy
 Change "it is also a collective term" to "an LLI is also a collective term"
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change marked in ">><<"
 Change "it is also a collective term" to "an LLI>>D<< is also a collective term"

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 1 SC 1.4.333a P21 L26 # 553
 Hajduczenia, Marek Charter Communicatio
 Comment Type TR Comment Status A MCRS
 MPRS is no more - need to align the terminology
 SuggestedRemedy
 Change "multi-point RS" to "Multi-Channel RS (MCRS)"
 Response Response Status C
 ACCEPT.

Cl 1 SC 1.4.333a P21 L26 # 554
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 There are only two added definitions that do not start with a complete sentence.
 SuggestedRemedy
 Change "one of a number of defined paths" to "In Clause 143, an MCRS channel represents one of a number of defined paths"
 Strike "(see Clause 143)" at the end of the definition
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 31A SC 31A P22 L8 # 418
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 In multiple places the term "modify" is used in editors instructions. No doubt someone in the WG will point out that the term "change" is preferred per the WG Template.
 SuggestedRemedy
 Change all instances of "modify" to "change" in editing instructions now.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 56 SC 56.1 P25 L13 # 518
 Powell, Bill Nokia
 Comment Type TR Comment Status A Figure 56-5a
 The current Figure reference for Nx25G EPON is Figure 56-5 (end of first paragraph of Clause 56.1 and figure labeled 56-5a on the next page). However, Figure 56-5 is used for the EPoC architecture.
 SuggestedRemedy
 Change the figure reference in this paragraph and the current Nx25G EPON figure on the next page to Figure number 56-6.

OR, if use of Fig. 56-5a is intentional for Nx25G EPON, at least change the reference to the Nx25G EPON figure (currently Fig. 56-5 in CL 56.1) to also reference Fig. 56-5a.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See comment #521

Cl 56 SC 56.1 P25 L13 # 521
 Wey, Jun Shan ZTE TX
 Comment Type ER Comment Status A Figure 56-5a
 "...Figure 56-5 for Nx25G-EPON topologies." should be Figure 56-5a.
 SuggestedRemedy
 "...Figure 56-5a for Nx25G-EPON topologies."
 Response Response Status C
 ACCEPT.

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 56 SC 56.1.2.1 P27 L6 # 519
Powell, Bill Nokia

Comment Type T Comment Status R

This clause is called "Multipoint MAC Control Protocol (MPCP)." However we have now added Nx25G EPON to this clause, which refers to MPMC in Fig. 5a and several places in CL 144, which still define MPMC as "Multipoint MAC Control."

SuggestedRemedy

Possible solutions:

(1) Change the title of CL56.1.2.1 to "Multipoint MAC Control (MPCP & MPMC)
OR

(2) Create a new subclause 56.1.2.1a (insert between current 56.1.2.1 & 56.1.2.2) to describe Nx25G EPON's use of MPMC. Also move the Nx25G EPON text in both paragraphs of 56.1.2.1 to the new clause.

After group discussion, if the TF doesn't have a strong opinion toward the second option, I recommend the first option above.

Response Response Status C

REJECT.

Multipoint MAC Control (MPMC) is a sublayer, that exists in all EPONs. MPCP is one of the protocols that resides in that sublayer. In .3ca MPMC, in addition to MPCP, we also have another protocol, called CCP. See bullet 3 in comment #549. The clause 56.1.2.1 just talks about the MPCP, and MPCP exists in all EPONs. It would be wrong to bring MPMC here.

Cl 56 SC 56.1.3 P27 L36 # 545
Kramer, Glen Broadcom

Comment Type T Comment Status A PMD-names

Per accepted PMD naming convention (see slide 17, kramer_3ca_4a_0518.pdf), the upstream PMD rate is only shown for the asymmetric PMDs.

SuggestedRemedy

Replace all occurrences of 25G/25GBASE-PQ... and 50G/10GBASE-PQ... with 25GBASE-PQ... and 50GBASE-PQ

Response Response Status C

ACCEPT IN PRINCIPLE.

See motion #4 from September 2018 meeting for changes to PMD names. Apply fixes globally

Cl 56 SC 56.1.3 P28 L1 # 419
Remein, Duane Huawei

Comment Type E Comment Status A

Previous entries in this table list OLT first and then ONU. We should be consistent with that ordering.

SuggestedRemedy

List OLT then ONU, keep rate order as is (i.e., 25/10G..D, 25/10G..U, 25/25G..D, 25/25G..U, 50/10..D, 50/10G..U, ...)

Response Response Status C

ACCEPT.

Cl 56 SC 56.1.3 P29 L26 # 420
Remein, Duane Huawei

Comment Type T Comment Status A

This para is incorrect (we don't use 25GBASE_R signaling at all).

SuggestedRemedy

Change from:

"Additionally, EFM introduces a family of Physical Layer signaling systems which are derived from 25GBASE-R, but which include RS, PCS and PMA sublayers adapted for Nx25G-EPON, along with a mandatory FEC capability, as defined in Clause 142. All of these systems employ the PMD defined in Clause 141. The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting the following series of PMD combinations:" to "Additionally, EFM introduces a family of P2MP Physical Layer signaling systems derived from 25GBASE-R, referred to as 25GBASE-PQ, which include an RS (Clause 143), PCS and PMA sublayers with a mandatory FEC capability (Clause 142) adapted for Nx25G-EPON. The family of P2MP systems utilizes 25GBASE-PQ signaling for the downstream and upstream directions. All 25GBASE-PQ systems employ the PMDs defined in Clause 141 and support the following series of PMD combinations:

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #555

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 56 SC 56.1.3 P29 L27 # 555
 Hajduczenia, Marek Charter Communicatio

Comment Type TR Comment Status A

Avoid listing PMDs over and over again in multiple locations in the standard.

SuggestedRemedy

Change "The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting the following series of PMD combinations:
 a) <TBD, list of PMDs to be filled in, once we know what combinations are supported when PMD tables get filled in>."

to read

"The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting a series of PMD combinations as defined in Table 141-6." Make sure the link is live

Response Response Status C

ACCEPT IN PRINCIPLE.

Strike "The family of P2MP Physical Layer signaling systems utilizes exclusively 25GBASE-R signaling for the downstream and upstream directions, supporting the following series of PMD combinations: a) <TBD, list of PMDs to be filled in, once we know what combinations are supported when PMD tables get filled in>. All Nx25G-EPON PMDs are defined in Clause 141."

Cl 56 SC 56.1.3 P29 L33 # 421
 Remein, Duane Huawei

Comment Type E Comment Status A

This was just stated in the previous sentences.

SuggestedRemedy

Strike: "All Nx25G-EPON PMDs are defined in Clause 141."

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #555.

Cl 141 SC 141 P34 L1 # 556
 Hajduczenia, Marek Charter Communicatio

Comment Type E Comment Status D bucket

Do not break EPON name across lines

SuggestedRemedy

Insert forced line break before Nx25G-EPON

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 141 SC 141.1 P34 L8 # 557
 Hajduczenia, Marek Charter Communicatio

Comment Type TR Comment Status A

Aggregate line rate - what is this new animal?

SuggestedRemedy

There are 4 instances in the whole draft, all in intro text in Clause 141. It is likely that MAC rate is implied (since it is in bps and not Bd) and also implied aggregate throughput.

Change all instances of "an aggregate line rate" with "a MAC rate"

Change "All Nx25G-EPON PMDs operating in the downstream direction at 50 Gb/s are collectively referred to as 50G-EPON PMDs while those operating at a maximum rate of 25 Gb/s in the downstream direction are referred to as 25G-EPON PMDs." to "All Nx25G-EPON PMDs operating in the downstream direction at the MAC rate of 50 Gb/s are collectively referred to as 50G-EPON PMDs while Nx25G-EPON PMDs operating in the downstream direction at the MAC rate of 25 Gb/s are referred to as 25G-EPON PMDs." to align terminology and the text flow better

Response Response Status C

ACCEPT IN PRINCIPLE.

Change all instances of "an aggregate line rate" with "a MAC data rate"

Change "All Nx25G-EPON PMDs operating in the downstream direction at 50 Gb/s are collectively referred to as 50G-EPON PMDs while those operating at a maximum rate of 25 Gb/s in the downstream direction are referred to as 25G-EPON PMDs."

to

"All Nx25G-EPON PMDs supporting the downstream MAC data rate of 50 Gb/s are collectively referred to as 50G-EPON PMDs while Nx25G-EPON PMDs supporting the downstream MAC data rate of 25 Gb/s are collectively referred to as 25G-EPON PMDs."

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 141 SC 141.2 P37 L15 # 425
 Remein, Duane Huawei

Comment Type E Comment Status A

This section seems to go from detailed information to generalized information. It seems better to introduce the topic of nomenclature first before going into details.

SuggestedRemedy

Under 141.2 add the following text:
 Nx25G-EPON PMDs are classified based on PHY link type (see 141.2.1) which is specified by rate (both upstream and downstream), wavelength, channel insertion loss and coexistence technology. PMD names are determined by PHY link type, direction, signaling scheme, protocol, line code and optical power budget as summarized in 141.2.2. {note the ref to 141.2.2 assumes that 141.1.6 is moved to 141.2.2}
 Move section 141.1.4 "PHY Link Types" and Tables 141-1 thru 141-5 to 141.2.1.
 Move section 141.2.6 "PMD naming" to 141.2.2 and renumber the remaining sections.

Response Response Status C

ACCEPT IN PRINCIPLE.

Insert a new subclause 141.2.1 with the following text (this avoids hanging paragraph

141.2.1 Introduction
 Nx25G-EPON PMDs are classified based on transmit and receive rate, coexistence type, transmission direction, and power level.

Remove 141.2.2 and its content

Change "141.2.4 PMD direction classes" to "141.2.4 PMD transmission direction classes"

Cl 141 SC 141.2.2 P37 L28 # 559
 Hajduczenia, Marek Charter Communicatio

Comment Type E Comment Status D bucket

Always avoid the use of "always" unless describing unavoidable situations

SuggestedRemedy

Strike all instances of "always" in 141.2.2

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 141 SC 141.2.3 P37 L36 # 560
 Hajduczenia, Marek Charter Communicatio

Comment Type T Comment Status A

Unclear what the purpose of the qualifier is "previously existing"

SuggestedRemedy

Strike "previously existing" - there are many more previously existing technologies

Response Response Status C

ACCEPT IN PRINCIPLE.

Change

Nx25G-EPON PMDs defined in this clause support WDM coexistence with one of two previously existing PON technologies; 10G-EPON or GPON.

to

Nx25G-EPON PMDs defined in this clause support WDM coexistence with 10G-EPON or GPON.

Cl 141 SC 141.2.5 P37 L48 # 561
 Hajduczenia, Marek Charter Communicatio

Comment Type TR Comment Status A

Repetition of text from 141.1.3

SuggestedRemedy

Change "Nx25G-EPON PMDs defined in this clause are defined as one of two power classes; a medium or a high power budget class" to "Nx25G-EPON PMDs defined in this clause are defined as one of two power classes; a medium or a high power budget class, defined in 141.1.3." - make link live. Strike "A medium PMD power class supports a P2MP media channel insertion loss of ≤ 24 dB e.g., a PON with the split ratio of at least 1:16 and the distance of at least 20 km or a PON with the split ratio of at least 1:32 and the distance of at least 10 km. A high PMD power class supports a P2MP media channel insertion loss of ≤ 29 dB e.g., a PON with the split ratio of at least 1:32 and the distance of at least 20 km."

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #422

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 141 SC 141.2.5 P37 L52 # 522
 Wey, Jun Shan ZTE TX
 Comment Type ER Comment Status D bucket
 Typo "din"
 SuggestedRemedy
 "in"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC 141.2.5 P37 L52 # 426
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 typo "indicate din" should be "indicated in"
 SuggestedRemedy
 per comment
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC 141.2.6 P38 L6 # 563
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status A
 Descriptions would be more legible if placed into a structured table
 SuggestedRemedy
 Replace content of 141.2.6 with hajduczenia_3ca_1_0918.pdf
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Use hajduczenia_3ca_1a_0918.pdf with the following changes
 - remove lines for w1 and w2
 - remove w1 and w2 from PMD name definition
 - change "Values" to "Allowed values"
 - remove G, P, Q, BASE value entries from "Values" column

Cl 141 SC 141.2.6 P38 L11 # 562
 Hajduczenia, Marek Charter Communicatio
 Comment Type TR Comment Status A
 "If r1 is equal to r2 (i.e., symmetric PMDs) r2 is omitted" is not true anymore based on discussion at the last meeting
 SuggestedRemedy
 Strike the line
 Response Response Status C
 ACCEPT IN PRINCIPLE.

Cl 141 SC 141.2.6 P38 L27 # 427
 Remein, Duane Huawei
 Comment Type E Comment Status A
 Change "coexist" to "coexistence"
 SuggestedRemedy
 per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See comment #563

Cl 141 SC 141.2.7 P38 L45 # 564
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status A
 There is very little in the way of description in this subclause: "This subclause describes how"
 SuggestedRemedy
 Change to "Table 141-6 shows how"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Add the following text page 38, end of line 46:
 "Table 141-6 shows the list of all supported PMD types."

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 141 SC 141.2.7 P39 L2 # 428
 Remein, Duane Huawei

Comment Type T Comment Status A

There is no reference to Table 141-6. It is unclear to me what this table adds that is not included in other tables.

SuggestedRemedy

Either remove the table to add introductory text and reference.

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #564

Cl 141 SC 141.2.7 P39 L43 # 430
 Remein, Duane Huawei

Comment Type T Comment Status A

We've used the term "power budget" quite a bit up to this point. In this context the term is more encompassing than in previous uses.

SuggestedRemedy

Change:
 "The power budget is determined" to:
 "The end-to-end power budget is determined"

Response Response Status C

ACCEPT IN PRINCIPLE.

In 141.2.7, change "The power budget" to "The PHY link power budget"

Cl 141 SC 141.2.7.1 P39 L31 # 565
 Hajduczenia, Marek Charter Communicatio

Comment Type TR Comment Status A

"symmetric-rate ONU PMDs with symmetric-rate OLT PMDs" - there are now both symmetric and asymmetric PMDs shown

SuggestedRemedy

Change to "ONU PMDs with OLT PMDs", same change on page 40, line 3

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #429

Cl 141 SC 141.2.7.1 P39 L31 # 429
 Remein, Duane Huawei

Comment Type T Comment Status A

This description of table 141-7 appears to be incorrect as the table includes asymmetric and symmetric PMDs.

SuggestedRemedy

Change:
 "Table 141-7 illustrates recommended pairings of symmetric-rate ONU PMDs with symmetric-rate OLT PMDs to achieve the power budgets as shown in Table 141-1 through Table 141-5." to
 "Table 141-7 illustrates recommended pairings of OLT PMDs with ONU PMDs to achieve the medium power budgets as shown in Table 141-1 through Table 141-5."

Response Response Status C

ACCEPT.

Cl 141 SC 141.2.7.2 P40 L3 # 431
 Remein, Duane Huawei

Comment Type T Comment Status A

This description of table 141-8 appears to be incorrect as the table includes asymmetric and symmetric PMDs.

SuggestedRemedy

Change:
 "Table 141-8 illustrates recommended pairings of asymmetric-rate ONU PMDs with asymmetric-rate OLT PMDs to achieve the power budgets as shown in Table 141-1 through Table 141-5." to
 "Table 141-8 illustrates recommended pairings of OLT PMDs with ONU PMDs to achieve the power budgets as shown in Table 141-1 through Table 141-5."

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:
 "Table 141-8 illustrates recommended pairings of asymmetric-rate ONU PMDs with asymmetric-rate OLT PMDs to achieve the power budgets as shown in Table 141-1 through Table 141-5." to
 "Table 141-8 illustrates recommended pairings of OLT PMDs with ONU PMDs to achieve the high power budgets as shown in Table 141-1 through Table 141-5."

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 141 SC 141.3 P40 L30 # 432
 Remein, Duane Huawei
 Comment Type E Comment Status A
 We have a good mix of "PQ-type PMD", "PQ type PMD", and "PQ compliant". Consistency would be better.
 SuggestedRemedy
 For "PQ-type PMD" and "PQ type PMD" use "Nx25G-EPON PMD"
 For "A PQ compliant" use "An Nx25G-EPON compliant"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace "PQ-type PMD" with "PQ type PMD"

Cl 141 SC 141.3.1 P40 L38 # 433
 Remein, Duane Huawei
 Comment Type T Comment Status A
 The following statement is incorrect "representing 256B/257B blocks,". The stream of bits is not composed solely of 256B/257B blocks but includes Parity, IBI, SP, and EOB delimiter all of which are not 256B/257B encoded.
 SuggestedRemedy
 Strike the statement.
 Response Response Status C
 ACCEPT.

Cl 141 SC 141.3.1.1 P40 L51 # 434
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 Delay constraints. In previous generations of EPON delay was constrained over the entire RS-PMA chain (see below). We now have separate sections for RS and PCS/PMA and need to distribute the total allowed delay variation with some going to RS and the rest to the PCS/PMA.
 "76.1.2 Delay constraints
 The MPCP relies on strict timing based on the distribution of timestamps. The actual delay is implementation dependent but an implementation shall maintain a combined delay variation through RS, PCS, and PMA sublayers of no more than 1 time_quantum (see 77.2.2.1) so as not to interfere with the MPCP timing."

SuggestedRemedy
 In 141.3.1.1 and 142.1.2 replace the {TBD} with the following and change section 143.4.3 to read:
 "The MPCP relies on strict timing based on the distribution of timestamps. The actual total delay is implementation dependent but an implementation shall maintain a delay variation as summarized in Table 144-TBD. Implementations shall declare the expected total delay for each direction as specified in {cl 45 ref}."
 In 144.3.1.2 change:
 "The actual delay is implementation dependent; however, a complying implementation shall maintain a delay variation of no more than <TBD EQs> through the MAC." to read:
 "The actual delay is implementation dependent; however, a complying implementation shall maintain a delay variation in accordance with Table 144-x."

Table 144-x Delay variation allocation in Nx25G-EPON

Layer/Sub-layer	Allowed Delay variation (EQT)
MCRS	1
Nx25G-EPON PCS/PMA	2
Nx25G-EPON PMD	1
MAC to PHY(1)	4
PHY(2)	3

- Notes:
 1) Total delay variation for an Nx25G-EPON implementation covering both MAC and PHY layers.
 2) Total delay variation for an Nx25G-EPON implementation including PCS, PMA and PMD.
 3) Total expected delay is declared as specified in {CI 45 PMA/PMD Ref} and {CI 45 PCS Ref}. Implementations which combine MCRS, PCS, PMA and PMD may use either one or both of these mechanisms.

Editors Note: we will need to determine how to declare MCRS total delay which may affect Table 144-x"

Proposed Response Response Status Z
 REJECT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

This comment was WITHDRAWN by the commenter.

AI for Glen and Duane to come up with a delay variability requirements' text.

Cl 141 SC 141.3.1.2 P41 L2 # 435
Remein, Duane Huawei

Comment Type ER Comment Status A

There are 9 instances of "Clause 142 PMA" (2 of which have some hidden character between the "C" and "I"). Most readers will not know what the "Clause 142 PMA" is and thus the statement is unhelpful to them. The link to the top of clause 142 is also not helpful, as it is 26 pages away from the PMA section of interest.

SuggestedRemedy

Change all instances of "Clause 142 PMA" (including those with hidden characters) to "Nx25G-EPON PMA (see 142.3)"

Response Response Status C

ACCEPT IN PRINCIPLE.

In Clause 142, replace all instances of "Clause 142 PMA" with "PMA defined in 142.3"

Cl 141 SC 141.3.1.2 P41 L8 # 436
Remein, Duane Huawei

Comment Type E Comment Status R

These two sentences are a bit wordy, not to mention incorrect, and can be improved;

SuggestedRemedy

Change:
"The Clause 142 PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 25.78125 GBd in the case of Nx25G-EPON OLT and ONU PMDs. The Clause 142 PMA continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G-EPON ONU PMDs." to
"The Nx25G PMA (see 142.3) continuously sends the appropriate stream of bits to the PMD for transmission on the medium, at a nominal signaling speed of 25.78125 GBd in the case of Nx25G-EPON OLT and ONU PMDs or at a nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G-EPON ONU PMDs."

Response Response Status C

REJECT.

Nothing wrong with the original text. Replacing two correct sentences with a single more complex and wordy sentence is hardly an improvement.

Cl 141 SC 141.3.1.4 P41 L19 # 437
Remein, Duane Huawei

Comment Type E Comment Status D

The wording of this sentence can be improved.

SuggestedRemedy

Change:
"The PMD continuously sends a stream of bits to the Clause 142 PMA corresponding to the signals received from the MDI, at the nominal signaling speed of 25.78125 GBd in the case of Nx25G-EPON OLT and ONU PMDs or to the Clause 142 PMA at the nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G-EPON OLT PMDs." to
"The PMD continuously sends a stream of bits to the Nx25G-EPON PMA (see 142.3) corresponding to the signals received from the MDI, at the nominal signaling speed of 25.78125 GBd in the case of Nx25G-EPON OLT and ONU PMDs or at the nominal signaling speed of 10.3125 GBd in the case of 25/10G-EPON and 50/10G-EPON OLT PMDs."

Proposed Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

Cl 141 SC 141.3.1.4 P41 L28 # 438
Remein, Duane Huawei

Comment Type ER Comment Status A

This phrase "Clause 142 PCS" is unhelpful to most readers, who will not know what the "Clause 142 PCS" is.

SuggestedRemedy

Change to " Nx25G-EPON PCS"

Response Response Status C

ACCEPT IN PRINCIPLE.

Change all instances of "Clause 142 PCS" to "PCS defined in 142.2"

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

CI 141 SC 141.5. P44 L27 # 444
 Remein, Duane Huawei

Comment Type TR Comment Status D

There is no definition of what is considered "The operating range" in this para and at line 49. Presumably this means reach and split but that is not mentioned anywhere. Does it also extend to wavelength and line rate? If so then it is OK per the following statement to operate at any wavelength and rate "A transceiver which exceeds the operational range requirement while meeting all other optical specifications is considered compliant."
 Note that in CI 60 the term range was used in Table 60-1 instead of reach in the reference table so there was a minimal connection to phrasing.

SuggestedRemedy

Change in both cases:
 "The operating ranges ..." to: "The maximum reach ..."

and change:
 "... exceeds the operational range requirement ..." to "... exceeds the operational reach requirement ..."

Proposed Response Response Status W

PROPOSED REJECT.

Operating ranges means power levels, wavelength ranges, etc. Current text is correct as is.

AI for Duane and John to come up with the list of parametrers that may be allowed to exceed

CI 141 SC 141.5.1 P44 L34 # 570
 Hajduczenia, Marek Charter Communicatio

Comment Type E Comment Status D bucket

Tables are not displayed within the associated subclauses

SuggestedRemedy

Force Table 141-12 and Table 141-13 to follow 141.5.1 Transmitter optical specifications
 Force Table 141-14 and Table 141-15 to follow 141.5.2 Receiver optical specifications
 Similar changes needed in 141.6.1 Transmitter optical specifications and 141.6.2 Receiver optical specifications

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 141 SC 141.6 P44 L46 # 445
 Remein, Duane Huawei

Comment Type E Comment Status D bucket

As near as I can tell there are no specifications in 141.2.

SuggestedRemedy

Strike ", as specified in 141.2"

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 141 SC 141.6 P45 L39 # 516
 Harstead, Ed Nokia

Comment Type T Comment Status A

Table 141-12, footnote (b): "This value is informative only." is ambiguous. "This" could mean the 2 dB, or it could be the same "this" in the previous sentence-- which refers to normative values in the body of the table. Same concern in Tables 141-13, -16, and -17.

SuggestedRemedy

Reword, for example, "For reference, this implies that the minimum average launch power per channel at minimum extinction ratio and maximum TDP is 2 dBm (informative)."

Response Response Status C

ACCEPT IN PRINCIPLE.

Comment type was changed to T.

Change "This value is informative only." to "This minimum average launch power value is informative only.". The same change applies to Tables 141-13, Tables 141-16, and Tables 141-17.

CI 141 SC 141.6.2 P45 L52 # 447
 Remein, Duane Huawei

Comment Type ER Comment Status A

Unhelpful link with unhelpful text "Clause 141 ONU PMDs,"

SuggestedRemedy

Change to "Nx25G-EPON ONU PMDs,"

Response Response Status C

ACCEPT IN PRINCIPLE.

Change to "ONU PMDs"

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 141 SC 141.6.2 P45 L52 # 446
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 No PMDs are "(as specified in 141.2)"
 SuggestedRemedy
 Strike the parenthetical.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC 141.6.2 P45 L54 # 524
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 Table 141-10 is for the downstream wavelength, not for ONU PMD.
 SuggestedRemedy
 Change to Tables 141-18 and 141-19
 Response Response Status C
 ACCEPT.

Cl 141 SC 141.6.2 P46 L44 # 527
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 Table 141-10 in this and the next paragraphs need to be replaced by the correct reference.
 SuggestedRemedy
 Change to Tables 141-18 and 141-19
 Response Response Status C
 ACCEPT.

Cl 141 SC 141.7.13 P54 L10 # 448
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 Incomplete sentences.
 SuggestedRemedy
 Change (4x in this section)
 ", value is less than 128 ns ..." to
 " and has a value of less than 128 ns ..."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC 141.7.13 P54 L11 # 517
 Harstead, Ed Nokia
 Comment Type T Comment Status A
 Table 141-16 and 141-17 specify Turn-on time (max) and Turn-off time (max) to be 128 ns. Which means 128 ns is an acceptable value. The text in 141.7.13 says they must be "less than 128 ns", which means 128 ns is not an acceptable value.
 SuggestedRemedy
 Reword text to indicate 128 ns maximum. Or, delete values here since they are already captured in the table.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Comment type changed from E to T
 Change all instances of "value is less than 128 ns" to "value is less than or equal to 128 ns"

Cl 141 SC 141.7.13 P54 L12 # 449
 Remein, Duane Huawei
 Comment Type TR Comment Status A
 "Treceiver_settling is defined in 141.7.13.2 (informative), value is less than ..." How can a normative parameter be defined in and informative subclause?
 SuggestedRemedy
 Change to read "A technique for measuring Treceiver_settling is illustrated in 141.7.13.2 (informative) and has a value of less than ..."
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change to read "A method for measuring Treceiver_settling is illustrated in 141.7.13.2 (informative) and has a value of less than ..."

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta

Cl 141 SC 141.7.13.1 P54 L26 # 571
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Stray T in "as defined in TT able 141-16"
 SuggestedRemedy
 Remove the green "T"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC 141.7.13.2 P54 L36 # 572
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 "The test setup for measuring Ton and Toff is described in Figure 141-4." -figure does not describe really anything.
 SuggestedRemedy
 Change "described in Figure 141-4" to "shown in Figure 141-4"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 141 SC Table 141-12 P45 L23 # 523
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 The unit of extinction ratio should be "dB"
 SuggestedRemedy
 "for extinction ratio >= 9 dB
 for extinction ratio < 9 dB"
 Response Response Status C
 ACCEPT.

Cl 141 SC Table 141-13 P46 L24 # 525
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 The unit of extinction ratio should be "dB"
 SuggestedRemedy
 "for extinction ratio >= 9 dB
 for extinction ratio < 9 dB"
 Response Response Status C
 ACCEPT.

Cl 141 SC Tables 141-12, 141-13, P45 L # 526
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 The upperbound TDP values in footnote (a) in Tables 141-12, 141-13, 141-16, and 141-17 are inconsistent. In Table 141-13, the footnote states TDP < 0 dB, while in the other tables, it's TDP < 0.5 dB.
 SuggestedRemedy
 Make the appropriate correction
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 In Table 141-13, change "TDP < 0 dB," to "TDP < 0.5 dB,"

Cl 142 SC 142.2.2 P65 L18 # 450
 Remein, Duane Huawei
 Comment Type T Comment Status A
 Proposed resolution to Editor's Note
 SuggestedRemedy
 See remain_3ca_1_0918.pdf
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 See remain_3ca_1a_0918.pdf for all tracked changes.

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.2 P65 L18 # 451
 Remein, Duane Huawei

Comment Type T Comment Status A

Figure and text on transmit bit ordering missing.

SuggestedRemedy

Add the following text at the end of the section (142.2 in remein_3ca_1_0918):
 As shown in {Figure 142-5} the PCS transmitter first inputs two transfers from the xMII and consolidates these into a single 64-bit vector which is encoded into a 64B/66B vector. Four 66-bit vectors are accumulated, scrambled, and transcoded into a 257-bit vector which is transferred to the INPUT_FIFO and also copied to the FEC encoder. Data is transferred to the TX_FIFO, along with framing information (see {142.2.5.4.2}) by the PCS Framing process. The PCS Transmit process transfers all information bits to the PMA. The Nx25G-EPON PCS shall transmit bits in the order shown in {Figure 142-5}.

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #450 for reference

Add the following text at the end of the section 142.2:

As shown in Figure 142-5, the PCS transmitter first inputs two transfers from the xMII and consolidates these into a single 72-bit vector which is then encoded into a 66-bit vector. Four 66-bit vectors are accumulated, scrambled, and transcoded into a 257-bit vector which is transferred to the INPUT_FIFO and also copied to the FEC encoder. Data is transferred to the TX_FIFO, along with framing information (see 142.2.5.4.2) by the PCS Framing process. The PCS Transmit process transfers 257-bit blocks containing framing, information, and parity bits to the PMA. The PCS shall transmit bits in the order shown in Figure 142-5.

Cl 142 SC 142.2.1 P65 L26 # 452
 Remein, Duane Huawei

Comment Type E Comment Status A

We are very inconsistent in capitalizing process when referring to a SD. We should pick one.

SuggestedRemedy

use lower case in all instances (that way the editor does not have to pick and choose in which of the >150 cases to use which case).

Response Response Status C

ACCEPT IN PRINCIPLE.

Make sure all "process" instances capitalized ("Process").

Cl 142 SC 142.2.2.1.2 P65 L51 # 547
 Kramer, Glen Broadcom

Comment Type T Comment Status A

In table 142-1, the value for /IBI/ is the same as the value for /RA/.

SuggestedRemedy

- 1) Change xMII control code and Nx25GBASE-PQ control code for /IBI/ to 0x0A (to match definition in 142.2.2.5.1)
- 2) Insert hyphen after "Inter" in Inter Envelope Idle and Inter Burst Idle.

Response Response Status C

ACCEPT.

Addressed in comment #450

Cl 142 SC 142.2.2.1.2 P65 L54 # 453
 Remein, Duane Huawei

Comment Type TR Comment Status A

CC /IBI/ should not be the same as /RA/

SuggestedRemedy

Change xMII and Nx25GBASE-PQ IBI control codes to 0x0A

Response Response Status C

ACCEPT.

Addressed in comment #450

Cl 142 SC 142.2.2.2 P67 L3 # 454
 Remein, Duane Huawei

Comment Type E Comment Status D bucket

Typo "input" should be capitalized in "Once the complete SBD is appended to the TX_FIFO the input process begins transferring"

SuggestedRemedy

per comment

Proposed Response Response Status W

PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.2.2 P67 L53 # 455
 Remein, Duane Huawei
Comment Type T Comment Status D
 If the number of SP zones and their bit pattern must be announced before an ONU is allowed to transmit and this is determined by the OLT design, I don't see the values in setting a default. At most this should be optional.
SuggestedRemedy
 Make the SP1 and SP2 default patterns optional.
Proposed Response Response Status W
 PROPOSED REJECT.
 These are the values used by the OLT (announced) by default, i.e., in the lack of vendor-specific configuration.
 AI for Glen to look how to move these parameters into an informative subclause.

Cl 142 SC 142.2.2.4.2 P70 L11 # 596
 Laubach, Mark Broadcom
Comment Type TR Comment Status A post-deadline
 Comment #131 on D1.0 had a portion of it not implemented correctly:
 "2) Change the box text "Information Bit Interleaver" to "Information Bit De-interleaver"
SuggestedRemedy
 Please fix the figure accordingly
Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.2.4.2 P73 L20 # 595
 Laubach, Mark Broadcom
Comment Type TR Comment Status A post-deadline
 Need to add text to clarify shortening of upstream bursts relative to transmitted user bits.
SuggestedRemedy
 Add new paragraph/note:
 "Note - when the last codeword of an upstream burst is shortened, the shortening bits are at the end of the Transmitter User Bits effectively expanding the number of Zero Bits (see Figure 142-6)."
Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.2.4.5 P74 L8 # 594
 Laubach, Mark Broadcom
Comment Type TR Comment Status A post-deadline
 Need to remove potential confusion of FEC encoding versus interleaver decoding
SuggestedRemedy
 Delete "encoding and"
Response Response Status C
 ACCEPT IN PRINCIPLE.
 Delete "The control bit of each 257-bit block is not included in encoding and interleaving." on page 74, line 1.

Cl 142 SC 142.2.2.4.5 P75 L34 # 529
 Wey, Jun Shan ZTE TX
Comment Type TR Comment Status A
 There are 128 switches at each stage, so the value of i should be from 0 to 127.
SuggestedRemedy
 Change the current text of "i - 0, ..., 7" to "i=0, ..., 127"
Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.2.5.1 P79 L45 # 456
 Remein, Duane Huawei
Comment Type E Comment Status D bucket
 typo "ofburst"
SuggestedRemedy
 use "of burst"
Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.2.5.1 P80 L22 # 457
 Remein, Duane Huawei

Comment Type T Comment Status A
 Definitions for PAR_PLACEHLDR

SuggestedRemedy
 Change Value: to "0x 0-09-09-09-09-09-09-09"

Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change Value: to "0x 0-(09)₃₂"

Cl 142 SC 142.2.2.5.2 P80 L37 # 458
 Remein, Duane Huawei

Comment Type T Comment Status A
 This definition of CLK_IN puts the PCS out of phase by 180 degrees (1/2 EQ) with the MCRS.

SuggestedRemedy
 Change "each falling edge" to "each rising edge"
 In 143.3.3.4 pg 110 line 6 and 143.3.4.3 pg 116 line 24 change "each positive edge" to "each rising edge"
 In 143.3.3.4 pg 110 line 24 change "positive and negative" to "rising and falling"

Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.2.5.2 P80 L54 # 459
 Remein, Duane Huawei

Comment Type T Comment Status A
 No such defined term as "SP_COUNT"; "This FIFO holds at most SP_COUNT elements."
 The assertion is incorrect also.

SuggestedRemedy
 Change to read: "This FIFO holds either SP_LENGTH or FEC_PARITY_SIZE elements, whichever is greater."

Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.2.5.2 P81 L12 # 460
 Remein, Duane Huawei

Comment Type E Comment Status D bucket
 Constant name should not cross a line

SuggestedRemedy
 Make "FEC_DELAY" non-breaking {Esc n s}

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 142 SC 142.2.2.5.2 P81 L28 # 461
 Remein, Duane Huawei

Comment Type TR Comment Status A
 Definition of SP[]. What is meant by "Each element consists of MSB 0 and the 257-bit blocks ..."? It appears that the definition agreed to in Pittsburgh Motion #8 did not get into in the draft.

SuggestedRemedy
 Use the agreed definition provided in remein_3ca_3_0518.pdf:
 The SP array is set to the provisioned value of the synchronization pattern as determined by the most recent settings of SP1, SP2, SP3, and their corresponding repeat parameters by the MPCP. The msb of each cell is set to zero.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Use the following definition

The SP array is set to the provisioned value of the synchronization pattern as determined by the most recent settings of SP1, SP2, SP3, and their corresponding length parameters by the MPCP. The msb of each cell is set to zero.

Cl 142 SC 142.2.2.5.2 P82 L7 # 462
 Remein, Duane Huawei

Comment Type T Comment Status A
 No such fifo as OUTPUT_FIFO (yet)

SuggestedRemedy
 Change "OUTPUT_FIFO" to "TX_FIFO"

Response Response Status C
 ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

CI 142 SC 142.2.2.5.3 P83 L6 # 463
 Remein, Duane Huawei

Comment Type T Comment Status A

We are eliminating the Gearbox.

SuggestedRemedy

Change:
 "PassToGearbox(v)
 This function passes a 257-bit vector v to the Gearbox for outputting to the PMA." to:
 PassToPMA(v)
 This function passes a 257-bit vector v to the PMA.

In Fig 142-15 change ""PassToGearbox" to "PassToPMA" in 2 places.

Strike para 142.2.2.6 Gearbox (pg 83)

Response Response Status C

ACCEPT.

CI 142 SC 142.2.2.5.3 P83 L9 # 544
 Kramer, Glen Broadcom

Comment Type TR Comment Status A

Transcode() function definition is wrong. It does not do scrambling (see 91.5.2.5).

SuggestedRemedy

1) Change definition of Transcode() as shown below:
 Transcode(a[4])
 This function performs 64B/66B to 256B/257B transcoding per 91.5.2.5 and returns the result. It takes an array of four scrambled 66-bit blocks a[4] as an argument and returns a 257-bit vector.

2) In Fig 142-13, in State PROCESS_DATA, insert the following line before TxInput<256:0> <=Transcode(XBUFFER[3:0]);

XBUFFER[3:0] <= Scramble(XBUFFER[3:0])

3) Add the definition for Scramble (a[4]) function:
 Scramble(a[4])
 This function scrambles the payload of a 66-bit block per 49.2.6. It takes an array of four 66-bit blocks a[4] as an argument and returns an array of four scrambled 66-bit blocks.

Response Response Status C

ACCEPT.

CI 142 SC 142.2.2.5.3 P83 L11 # 464
 Remein, Duane Huawei

Comment Type E Comment Status D

Stray characters "a[4] "

SuggestedRemedy

Strike

Proposed Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

CI 142 SC 142.2.2.5.4 P84 L17 # 546
 Kramer, Glen Broadcom

Comment Type TR Comment Status A NEXT_VECTOR

In Figure 142-13, variables got mixed up in state NEXT_VECTOR.

SuggestedRemedy

Restore the text in NEXT_VECTOR to its original form on slide 6 in remain_3ca_3a_0518.pdf

Response Response Status C

ACCEPT.

CI 142 SC 142.2.3 P83 L31 # 465
 Remein, Duane Huawei

Comment Type T Comment Status A

I believe both 10 & 25G rates will be specified in CI 142. "In the OLT, the PCS receive function may operate at a 25.78125 Gb/s rate, as specified herein ((NG-EPON type, symmetric)), or at a 10.3125 Gb/s rate, compliant with Clause {TBD} ((NG-EPON type, asymmetric))."

SuggestedRemedy

Change to read:
 "In the OLT, the PCS receive function may operate at a 25.78125 Gb/s rate or at a 10.3125 Gb/s rate."

Response Response Status C

ACCEPT IN PRINCIPLE.

"In the OLT, the PCS receive function may operate at the line rate of 25.78125 Gb/s or 10.3125 Gb/s."

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.3.2 P83 L48 # 466
 Remein, Duane Huawei

Comment Type TR Comment Status D

This text was adopted from 76.3.3.2 and needs to be aligned with the new synchronizer SD.

Note that the suggested description assumes that FecDecoded is a ternary variable with values of Invalid, True and False and when read assumes the value of Invalid. The variable must be set to either True or False by the FEC Decode process at the conclusion of each and every FEC CW decode.

SuggestedRemedy

Replace with:
 "The ONU Synchronizer process begins by setting MatchCount to zero. The process then compares the upper 10-bits of the rx_buffer to the FEC_CW_DELIM constant. If a match is found the process increments MatchCount in the VERIFY state otherwise it executes the Slip() function in the SLIP_1 state to remove one bit from the rx_buffer and reinitializes. In the VERIFY state if MatchCount is less than MATCH_TARGET the rx_buffer is slipped by one FEC_CW_SIZE and the process compares the upper 10 bits of the next FEC codeword to FEC_CW_DELIM. If MatchCount is greater than or equal to MATCH_TARGET in the VERIFY state the process moves to the ALIGNED state where it sets FecFailCount to zero. If the FecDecoded goes False the process moves to the FEC_FAILURE state where FecFailCount is incremented. If FecDecoded goes to True control returns to the ALIGNED state whereas if it goes to False again the FecFailCount is incremented again. If FecFailCount reaches FEC_FAIL_LIMIT the Synchronizer process is reinitialized.

The ONU Synchronizer shall implement the state diagram as depicted in Figure 142-14."

Proposed Response Response Status W

PROPOSED ACCEPT.

AI for Duane to update it.

Cl 142 SC 142.2.3.2 P84 L16 # 467
 Remein, Duane Huawei

Comment Type TR Comment Status A NEXT_VECTOR

In NEXT_VECTOR state the following actions are incorrect.

TxNext <= TxNext
 TxPrev <= NextTxVector()

SuggestedRemedy

Change action to:
 TxPrev <= TxNext
 TxNext <= NextTxVector()

Response Response Status C

ACCEPT.

Cl 142 SC 142.2.3.2 P84 L33 # 468
 Remein, Duane Huawei

Comment Type TR Comment Status A

I was in error when I suggested removing the scrambler function. It needs to be added back in.

My apologies to the Editor.

SuggestedRemedy

After xIndex <= 0 add the following:
 TxInput<256:0> <= Scramble(TxInput<256:0>)

Descriptive text is included in remain_3ca_1_0918.pdf.

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #544 for changes to Figure 142-13.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.3.2 P84 L33 # 469
 Remein, Duane Huawei

Comment Type TR Comment Status A

There is no info conveyed to the reader by setting TxInput<257> to "1".

SuggestedRemedy

Change:

"TxInput<57> <= 1" to:

"TxInput<57> <= SCRAMBLED"

Add to constants in proper order:

SCRAMBLED

TYPE binary

Value: 1

When bit 257 of a TxInput or TxOutput vector is set to this value it indicates that vector bits 256:0 are scrambled data.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

"TxInput<257> <= 1" to:

"TxInput<257> <= SCRAMBLED"

Add to constants in proper order:

SCRAMBLED

TYPE binary

Value: 1

This constant indicates that the contents of the 257-bit vector are scrambled. When the bit TxInput<257> or TxOutput<257> is set to 1, then bits TxInput<256:0> or TxOutput<256:0> in the same vector carry scrambled data.

Cl 142 SC 142.2.3.2 P84 L35 # 470
 Remein, Duane Huawei

Comment Type TR Comment Status A

There is no function "FEC_Encoder"

SuggestedRemedy

Change to: "FEC_Ecode" (no "r")

Response Response Status C

ACCEPT.

Cl 142 SC 142.2.3.2 P84 L45 # 471
 Remein, Duane Huawei

Comment Type T Comment Status A

These paras are incorrect and do not describe the synchronizer accepted.

"While in codeword lock, the synchronizer copies the FEC-protected bits from each data block and the parity bits of the codeword into an input buffer. When the codeword is complete, the FEC decoder is triggered, and the input buffer is freed for the next codeword. When in codeword lock, the state diagram continues to check for sync header validity. If 16 or more sync headers in a codeword pair (62 blocks) are invalid, then the state diagram deasserts codeword lock. In addition, if the persist_dec_fail signal becomes set, then codeword lock is deasserted (this check ensures that certain false-lock cases are not persistent.)"

SuggestedRemedy

Strike

Response Response Status C

ACCEPT.

Cl 142 SC 142.2.3.2 P86 L7 # 472
 Remein, Duane Huawei

Comment Type TR Comment Status A

In Figure 142-15 state INIT TxOutput<257:0> statement should be an assignment not a comparison.

SuggestedRemedy

per comment

Response Response Status C

ACCEPT.

Cl 142 SC 142.2.3.2.1 P86 L43 # 473
 Remein, Duane Huawei

Comment Type T Comment Status A

No such constant as FecFailLimit or MatchTarget.

SuggestedRemedy

Change to FEC_FAIL_LIMIT and MATCH_COUNT resp.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change to FEC_FAIL_LIMIT and MATCH_TARGET resp.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.2.3.2.2 P87 L31 # 479
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 typo "hold" should be "holds"
 SuggestedRemedy
 per comment
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 142 SC 142.2.3.2.3 P87 L36 # 480
 Remein, Duane Huawei
 Comment Type TR Comment Status A
 No such function Compare
 SuggestedRemedy
 Strike
 Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.3.2.4 P88 L1 # 592
 Kramer, Glen Broadcom
 Comment Type T Comment Status A post-deadline
 In ONU synchronizer state diagram (Figure 142-16), FecDecoded variable needs to be defined as a three-valued logic: (true - successful decoding; false - failed decoding, Z - waiting for FEC decoding. This is an unnecessary complicated solution to a simple behavior.
 SuggestedRemedy
 Revert to the original version of this state diagram (kramer_3ca_1_0318.pdf) and use two booleans: FecDecodeSuccess and FecDecodeFailure.
 The changes to the state diagram and the definitions of these two variables are provided in kramer_3ca_4_0918.pdf.
 Response Response Status C
 ACCEPT.

Cl 142 SC 142.2.3.2.4 P88 L1 # 593
 Kramer, Glen Broadcom
 Comment Type T Comment Status A post-deadline
 The generic section of the current MCRS specification allows the number of channels to only be powers of 2 (i.e. 1, 2, 4, 8, etc.). This is an unnecessary restriction and it does not make the MCRS state diagram simpler. MCRS is only specified this way because of how variables rCol and wCol are defined (no explicit reset to 0, only on roll-over)

SuggestedRemedy
 1) Define an generic constant NUM_CH to represent the number of supported MCRS channels
 NUM_CH
 TYPE: integer
 Value: application specific (see 143.3.3.2)
 The NUM_CH constant represents the number of channels supported by an MCRS-based device.

2) In Nx25G-EPON application-specific section, add the following:
 NUM_CH
 Value: 1 for devices supporting only 25 Gb/s operation over a single channel;
 2 for devices supporting 50 Gb/s operation over two channels.

2) Make changes to MCRS Input (Fig 143-13) and MCRS Output (Fig 143-17) state diagrams as shown in red in kramer_3ca_5_0918.pdf.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 1) Define an generic constant NUM_CH to represent the number of supported MCRS channels
 NUM_CH
 TYPE: unsigned integer
 Value: application specific (see 143.3.3.2)
 The NUM_CH constant represents the number of channels supported by an MCRS-based device.

2) In Nx25G-EPON application-specific section, add the following:
 NUM_CH
 Value: 1 for devices supporting only 25 Gb/s operation over a single channel;
 2 for devices supporting 50 Gb/s operation over two channels.

2) Make changes to MCRS Input (Fig 143-13) and MCRS Output (Fig 143-17) state diagrams as shown in red in kramer_3ca_5_0918.pdf.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 142 SC 142.3.2 P90 L4 # 481
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 Well this could be embarrassing:
 "switch the decoder in appropriately"
 Standards should never be inappropriate.
 SuggestedRemedy
 Change to read:
 "switch in the decoder as appropriate."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 142 SC Figure 142-2 P66 L13 # 528
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 "MPRS" should be "MCRS"
 SuggestedRemedy
 Replace "MPRS" with "MCRS"
 Response Response Status C
 ACCEPT.

Cl 143 SC 143.1 P93 L10 # 482
 Remein, Duane Huawei
 Comment Type T Comment Status A
 I think an important point to be made here is that the MCRS is applicable to either P2P or P2MP applications.
 SuggestedRemedy
 Change:
 "Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point links, or a multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow multiple MACs to interface with multiple PHYs (see Figure 143-1)." to:
 "Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point (P2P) links, or a multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow single or multiple MACs to interface with multiple PHYs in either P2P or P2MP applications (see Figure 143-1)."
 Response Response Status C
 ACCEPT IN PRINCIPLE.

"Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point links, or a multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow multiple MACs to interface with multiple PHYs (see Figure 143-1)."
 to:
 "Generally, single-channel RS specifications enabled a single MAC to interface to a single PHY in point-to-point (P2P) links, or multiple MACs to interface to a single PHY in P2MP links (e.g., EPON architectures). This concept is expanded in this clause to allow single or multiple MACs to interface with multiple PHYs in either P2P or P2MP applications (see Figure 143-1)."

Cl 143 SC 143.1 P93 L47 # 573
 Hajduczenia, Marek Charter Communicatio
 Comment Type T Comment Status A
 There is very little value on aggregating multiple 100M MIIs together, given that these PHYs and associated PCS layers are very mature at this time and unlikely to benefit from MCRS and associated multi-lane capabilities
 SuggestedRemedy
 Strike the editorial note in lines 46-47
 Response Response Status C
 ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.2 P94 L1 # 537
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status A
 The summary of major concept should be updated to clarify the details of the MCRS_CTRL primitives.
 SuggestedRemedy
 Insert new text in item a). See Supplement file wey_3ca_2_0918
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Add the following text at the end of a): ", which indicate envelope start time, durations, and transmission channels"

Cl 143 SC 143.2 P94 L12 # 534
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status D
 Bandwidth granted to a GLID is shared among multiple member LLIDs (see e.g. zhangweiliang_3ca_1b_0317). So within a granted GLID bandwidth there would be multiple envelopes of multiple LLIDs.
 As part of the GLID related updates, Sec. 143.2 (summary of major concept) should be revised.
 SuggestedRemedy
 Add item g) If MCRS_CTRL primitive carries GLID bandwidth, the scheduler in MCRS schedules data from member LLIDs of GLID, based on the policy configured by OAM.
 See Supplement file wey_3ca_1_0918
 Proposed Response Response Status W
 PROPOSED REJECT.
 This is an attempt to specify the operation of a DBA mechanism, something that has been historically out of the scope of 802.3 P2MP standards.

Cl 143 SC 143.2.1 P94 L24 # 574
 Hajduczenia, Marek Charter Communicatio
 Comment Type T Comment Status D
 Wrong expansion: logical link identification - see 1.4.313
 SuggestedRemedy
 change to "logical link identifier"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.2.2 P94 L37 # 575
 Hajduczenia, Marek Charter Communicatio
 Comment Type T Comment Status D
 An example of such uneven allocation might be handy.
 SuggestedRemedy
 Insert the following text at the end of 143.2.2: "For example, in 50/10G-EPON OLT, there are 2 transmit MCRS channels associated with 25GMII and 1 receive MCRS channel associated with XGMII."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.2.3 P94 L47 # 483
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 MCRS_CTRL.
 request() crosses line
 SuggestedRemedy
 Make MCRS_CTRL.request() none breaking {Esc n s}
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses

ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.2.4.2 P95 L21 # 576
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 More "always" statements
 SuggestedRemedy
 Remove "always" in line 22
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.2.4.2 P95 L22 # 484
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 This sentence and Fig 143-3 are misleading:
 "An envelope includes one or more data frames and can contain at most two partial frames (one at the beginning and one at the end of the envelope) and any number of whole frames (see Figure 143-3)."
 While true if only one channel is available to the system it is not generally true for a multi-channel system where the objective is to attain a MAC data rate of more than that of a single channel. In such systems, single frames will be spread over multiple channels and thus each envelope can transport multiple frame fragments.

SuggestedRemedy
 Change to read:
 "In a system with a single channel an envelope includes one or more data frames and can contain at most two partial frames (one at the beginning and one at the end of the envelope) and any number of whole frames (see Figure 143-3). In systems with multiple channels envelopes may overlap as explained in 143.2.5 and frames can be simultaneously transmitted over multiple channels with each channel transporting parts of a single frame. However, at the conclusion of the overlapped transmission only a single frame can remain fragmented."

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Change to read:
 "In a system with a single channel an envelope includes one or more data frames and can contain at most two partial frames (one at the beginning and one at the end of the envelope) and any number of <<non-fragmented>> frames (see Figure 143-3). In systems with multiple channels, envelopes may overlap <<(see 143.2.5)>> and frames <<may>> be simultaneously transmitted over multiple channels with each channel transporting parts of a single frame. However, at the conclusion of the overlapped transmission, only a single frame <<may>> remain fragmented."

Cl 143 SC 143.2.4.4 P96 L46 # 577
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 External reference: 46.3.1.4
 SuggestedRemedy
 Apply Forrest Green color to "46.3.1.4"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.2.4.4 P97 L3 # 530
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status D
 Preamble should be IPG
 SuggestedRemedy
 Replace "preamble" with "IPG"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.2.5 P97 L50 # 485
 Remein, Duane Huawei
 Comment Type T Comment Status D
 Channel bonding can be done to either US or DS and need not be done to US _AND_ DS.
 SuggestedRemedy
 Change:
 "simultaneously bound to N1 MCRS transmit channels and N2 MCRS receive channels" to:
 "simultaneously bound to N1 MCRS transmit channels or N2 MCRS receive channels"
 and change:
 "transmit data rate of N1x25 Gb/s and the receive data rate of N2x25 Gb/s" to:
 "transmit data rate of N1x25 Gb/s or the receive data rate of N2x25 Gb/s"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

While small in nature, the change is technical. Comment type changed from E to T.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.2.5 P97 L51 # 578
 Hajduczenia, Marek Charter Communicatio

Comment Type TR Comment Status D

N1 and N2 are undefined - these variables show up in the text in a rather unexpected way and not explained what these are

SuggestedRemedy

Either add some explanation to what N1 and N2 are, or remove them altogether - right now, it does not serve to explain what it is intended

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Replace N1 with N_{TX}
 Replace N2 with N_{RX}

Cl 143 SC 143.2.5 P98 L30 # 579
 Hajduczenia, Marek Charter Communicatio

Comment Type E Comment Status D bucket

Figure 143-6 uses different colors for LLID A and LLID B, making LLID B bars hard to read (color is too light)

SuggestedRemedy

Use the same color for LLID A and B alike. Also, for improved readability, consider using dashed horizontal axes and dotted vertical guide lines

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

See hajduczenia_3ca_2_0918.pdf for updated figure.

Cl 143 SC 143.2.5.1 P98 L41 # 538
 Wey, Jun Shan ZTE TX

Comment Type TR Comment Status D

Section 143.2.5.1 describes LLID transmission over multiple MCRS channels. The description is missing the following aspects and should be further expanded.

- MCRS should collect the information of channel availability and the related time duration for data transmission.
- An EQ is delivered over the channel that has the earliest transmission availability. If there are more than one such channel, the one with the lowest channel index value is selected.
- EQs are delivered over multiple channels based on channel transmission availability. The EQs transmitted over the same channel are formed into one envelope.
- The grant allocation in figure 143-7 could be optimized to maximize the peak rate.

SuggestedRemedy

See also Supplement file wey_3ca_2_0918

Proposed Response Response Status W

PROPOSED REJECT.

This is an attempt to specify the operation of a DBA mechanism, something that has been historically out of the scope of 802.3 P2MP standards.

Cl 143 SC 143.2.5.3 P99 L43 # 486
 Remein, Duane Huawei

Comment Type T Comment Status D

While 33 is a good number for 50G-EPON it may not be right in a generic sense.

SuggestedRemedy

Change:
 "The number of rows is set to
 "... 32. This provides sufficient buffering ..." to:
 "... a size sufficient to accommodate the expected skew, for example 33. "In this example a size of 33 provides sufficient buffering ..."

Proposed Response Response Status W

PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.3.1 P103 L5 # 580
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 "In addition to the M PLS service interfaces" - irrespective of how many times I read it, it always reads as "MPLS" = Multi Protocol Label Switching
 SuggestedRemedy
 To avoid confusion, can we switch from "M" to "K" (for example)?
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change
 "In addition to the M PLS service interfaces"
 to
 "In addition to the M instances of the PLS service interface"

Cl 143 SC 143.3.1 P103 L7 # 581
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Forward looking reference to EPON-specific figure
 SuggestedRemedy
 Drop "and Figure 143-18" - it is not needed + update Figure 143-10 accordingly
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Drop "and Figure 143-18" - it is not needed

Cl 143 SC 143.3.1.1 P103 L41 # 582
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 "In all single channel RSs"
 SuggestedRemedy
 Change to "In all single channel RS,"
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change to "In all single-channel RS definitions,"

Cl 143 SC 143.3.1.1 P103 L45 # 583
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Primitive name broken across line
 SuggestedRemedy
 Make sure PLS_DATA...is not broken across lines
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.1.1.1 P103 L53 # 584
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 External reference: 46.1.7.1
 SuggestedRemedy
 Add Forrest Green tag to the reference text. Also in 143.3.1.1.3
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.1.2 P105 L8 # 487
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 1st instance of MPCP
 SuggestedRemedy
 Change "MPCP" to Multi-Point Control Protocol (MPCP)
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.3.3.3 P108 L52 # 490
 Remein, Duane Huawei

Comment Type TR Comment Status D
 ADJ_BLOCK_SIZE details needed

SuggestedRemedy

TYPE: integer
 Value: implementation dependent.
 The ADJ_BLOCK_SIZE represents the number of EQs that encode to a single FEC codeword in the Nx25G-EPON system.

This change is included in remain_3ca_2_0918.pdf.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

TYPE: integer
 The ADJ_BLOCK_SIZE represents the number of EQs that encode to a single FEC codeword in the Nx25G-EPON system

Specyfing value as implementation-dependent does not add any value.

Cl 143 SC 143.3.3.3 P108 L52 # 491
 Remein, Duane Huawei

Comment Type T Comment Status D

The value or size of severl constants and variables are application dependent. As such in 143.3.3 and 143.3.4 this shold be reflected in the definition. Application specific definitons should be noted in 143.4.1.x.

SuggestedRemedy

See remain_3ca_2_0918.pdf for specific changes and additions

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

See remain_3ca_2a_0918.pdf for specific changes and additions

Cl 143 SC 143.3.3.3 P109 L3 # 492
 Remein, Duane Huawei

Comment Type T Comment Status D
 INTER_ENV_IDLE has been replaced with IEI_EQ.

SuggestedRemedy

Replace "INTER_ENV_IDLE" with "IEI_EQ" here and at pg 115 line 43
 On pg 117 line 19 & 20 replace "INTER_ENV_IDLE" with "Inter-Envelope Idle"

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

See comment #541

Cl 143 SC 143.3.3.3 P109 L15 # 493
 Remein, Duane Huawei

Comment Type TR Comment Status D
 RATE_ADJ_EQ details needed

SuggestedRemedy

replace "{TBD}" with "0xFF-09-09-09-09-09-09-09-09"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.3 P109 L19 # 494
 Remein, Duane Huawei

Comment Type TR Comment Status D
 RATE_ADJ_SIZE details needed

SuggestedRemedy

TYPE: integer
 Value: implementation dependent.
 The RATE_ADJ_SIZE variable represents the number of EQs that encode to a single FEC parity word in the Nx25G-EPON system.

This change is included in remain_3ca_2_0918.pdf.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

TYPE: integer
 The RATE_ADJ_SIZE variable represents the number of EQs that encode to a single FEC parity word in the Nx25G-EPON system.

Specyfing value as implementation-dependent does not add any value.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.3.3.4 P109 L31 # 495
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 BlkLeft details needed
 SuggestedRemedy
 TYPE: integer
 The BlkLeft variable represents the number of EQs remaining in the envelope currently being processed by the MCRS.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.4 P109 L36 # 496
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 ENV_TX is not a 72-bit shift register as implied by "72-bit binary array"
 SuggestedRemedy
 Change TYPE: to "array of 72-bit vectors"
 This change is included in remain_3ca_2_0918.pdf.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change TYPE: to "array of 72-bit vectors"

Cl 143 SC 143.3.3.4 P109 L40 # 497
 Remein, Duane Huawei
 Comment Type T Comment Status D
 Given that this is section is intended to be generic we should omit this sentence "For 100 Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1." as the rate is dependent on the base xMII rate which can be either 25G or 10G.
 SuggestedRemedy
 per comment
 This change is included in remain_3ca_2_0918.pdf.
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 This is a techncial change. Comment type was changed from E to T.

Cl 143 SC 143.3.3.4 P109 L46 # 498
 Remein, Duane Huawei
 Comment Type T Comment Status D
 Given the finite size of the variable the following statement is not quite correct: "if negative this variable represents the number of EQ periods since the end of the last envelope on the channel."
 Also it should be noted that EnvLeft[] is none roll-over (assuming an ONU can go > 21ms without a grant).
 SuggestedRemedy
 Change:
 "if negative this variable represents the number of EQ periods since the end of the last envelope on the channel." to:
 "if negative this variable represents the minimum number of EQ periods since the end of the last envelope on the channel."
 Add at end of description "At terminal count this variable does not rollover."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.4 P109 L51 # 499
 Remein, Duane Huawei
 Comment Type T Comment Status D
 The primary purpose of this variable is skew remediation not the row index into ENV_TX which would only requires a 5 bit variable.
 SuggestedRemedy
 Change:
 "The EnvPam variable indicates the row index in the ENV_RX into which the received data is to be written, its primary function is to remove skew accumulated during transport between two or more channels from a single transmitter." to:
 "The EnvPam variable is used to remove skew accumulated during transport between two or more channels from a single transmitter. Its lower bits are also used as the row index for ENV_RX into which the received data is to be written (see 143.3.4)."
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.3.4.3 P116 L7 # 506
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 ENV_RX is not a 72-bit shift register
 SuggestedRemedy
 Change TYPE: to "array of 72-bit vectors"
 This change is included in remain_3ca_2_0918.pdf.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.4.3 P116 L11 # 507
 Remein, Duane Huawei
 Comment Type E Comment Status D
 Given that this is section is intended to be generic we should omit this sentence "For 100 Gb/s devices N = 4, for 50 Gb/s devices N = 2, and for 25 Gb/s devices N = 1." as the rate is dependent on the base xMII rate which can be either 25G or 10G.
 SuggestedRemedy
 per comment
 This change is included in remain_3ca_2_0918.pdf.
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 This is a technical change. Comment type changed from E to T.

Cl 143 SC 143.3.4.3 P116 L52 # 508
 Remein, Duane Huawei
 Comment Type TR Comment Status D
 We seem to have lost wCol and wRow definitions
 SuggestedRemedy
 Add:
 wCol
 The wCol variable represents the ENV_RX buffer column currently being written by the Receive process. Each column corresponds to a separate reception channel, i.e., a separate xMII interface.
 wRow
 The wRow variable represents the ENV_RX buffer row index currently being written by the Receive process.
 This change is included in remain_3ca_2_0918.pdf.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1 P121 L3 # 509
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 Duplicate alpha list) Alpha list) not needed.
 SuggestedRemedy
 Remove the dup "alpha)"s
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1 P121 L3 # 510
 Remein, Duane Huawei
 Comment Type T Comment Status D
 Assuming we will use 10G in the US direction
 SuggestedRemedy
 Change:
 "supporting 25 Gb/s operation" to:
 "supporting 25 Gb/s or 10 Gb/s operation"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses Technical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 143 SC 143.4.1 P121 L4 # 585
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Double lettered list
 SuggestedRemedy
 Remove one of the list levels
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1 P121 L10 # 511
 Remein, Duane Huawei
 Comment Type T Comment Status D
 Duplicate statement with Pg 119 line 43: An MCRS channel that carries information from the OLT to the ONU is referred to as the downstream channel (DC), and the channel that carries information from an ONU to the OLT is referred to as the upstream channel (UC).
 SuggestedRemedy
 Strike
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 Comment is technical in nature. Comment type changed from E to T.

Cl 143 SC 143.4.1.2 P121 L48 # 531
 Wey, Jun Shan ZTE TX
 Comment Type ER Comment Status D bucket
 Typo "were" should be "where"
 SuggestedRemedy
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1.2 P122 L1 # 512
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 This para should be part of the preceding para which deals with "A distinction is made regarding the underlying mechanisms of achieving the asymmetric data rates."
 SuggestedRemedy
 Combine the two paras.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1.2 P122 L12 # 532
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status D
 "...transmit on DC0 and DC1" is incorrect
 SuggestedRemedy
 Change to 'receive' on DC0 and DC1
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 This is a technical change. Commrnt type changed from E to T.

Cl 143 SC 143.5 P124 L2 # 586
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 Wrong capitalization: MULTI-CHANNEL Reconciliation SUBLAYER
 SuggestedRemedy
 Change to "Multi-Channel Reconciliation Sublayer"
 The same fix needed on page 125, line 4/5
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144 P127 L1 # 548
 Kramer, Glen Broadcom

Comment Type TR Comment Status D

The following state diagrams in clause 144 were copied from Clause 77, but they are not applicable to 802.3ca:

- Figure 144-17—Discovery Processing OLT Register state diagram
- Figure 144-18—Discovery Processing OLT Final Registration state diagram
- Figure 144-19—Discovery Processing ONU Registration state diagram
- Figure 144-20—DISCOVERY Activation ONU state diagram (missing alignment with SYNC_PATTERN Validation ONU state diagram)
- Figure 144-24—Gate Processing state diagram at OLT
- Figure 144-28—Report Processing state diagram at ONU
- Figure 144-29—Report Processing state diagram at OLT

MPCP cannot generate keep-alive REPORTs because without specific PLID envelope allocation, they cannot be transmitted. A different method is required.

Many of the constant, variable, function, and message definitions are missing

SuggestedRemedy

Replace the existing Clause 144 with the material provided in kramer_3ca_3_0918.pdf. Main changes:

- 1) DISCOVERY and SYNC_PATTERN MPCPDU handing are combined into a single state daigram in the OLT and in the ONU to guarantee the proper alignment (i.e., ONU responds to discovery only if it received 2 or 3 SYNC_PATTERN MPCPDUs)
- 2) Clarified sublayer interfaces and added interface-specific abbreviations for indication and request primitives (MCSI + MCSR, MCII + MCIR, MADI + MADR)
- 3) Introduced a better and more concise notation for processing messages withing the state diagrams
- 4) Added missing definitions.
- 5) Total number of state diagrams reduced from 14 to 10
- 6) Added allocations fro LLID values per editorial note on page 152
- 7) Cleaned up definitions of set access methods (IsEmpty, Clear, RemoveHead, PeekHead).

some subclauses (mostly introductory text) are to be supplied at a later time.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144 P127 L1 # 549
 Kramer, Glen Broadcom

Comment Type TR Comment Status D

Clause 144 contains a lot of repetition and flow or material is confusing.

SuggestedRemedy

Organize the clause into separate areas (in this order):

- 1) General introduction of P2MP operations for readers familiar with Ethernet, but not with EPON.
- 2) Protocol-intependent operation (parsing and multiplexing)
- 3) Protocol-specific operatoions (currently two protocols: Myltpoint Control Protocol [MPCP] and Channel Control Protocol [CCP])

Adopt the clause outline as shown in kramer_3ca_3_0918.pdf.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.1 P128 L12 # 587
 Hajduczenia, Marek Charter Communicatio

Comment Type T Comment Status D

Missing reference in red

SuggestedRemedy

Change "see LLID in <TBD, Clause 143>" to "see LLID in 143.2.1" - make sure the link is live

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.1.1 P128 L17 # 588
 Hajduczenia, Marek Charter Communicatio

Comment Type E Comment Status D bucket

Goals and objectives are not needed

SuggestedRemedy

Strike 144.1.1

Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 144 SC 144.1.2 P128 L24 # 589
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 "Figure 144–2 depict" and should be "Figure 144–2 depicts"
 SuggestedRemedy
 Per comment
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.1.2 P128 L32 # 590
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 "This clause also specifies a specific ... " - a tad too specific :)
 SuggestedRemedy
 Change to "This clause also defines a specific"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.1.2 P128 L36 # 591
 Hajduczenia, Marek Charter Communicatio
 Comment Type E Comment Status D bucket
 MPCP has been expanded before
 SuggestedRemedy
 Change "MultiPoint Control Protocol (MPCP)," to "MPCP"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.2.3.4 P133 L25 # 536
 Wey, Jun Shan ZTE TX
 Comment Type TR Comment Status D
 GLID definition (based on 143.2.1.4 in D1.2_diff) should be updated to clarify the
 relationship between GLID and LLIDs.
 SuggestedRemedy
 See Supplement file wey_3ca_1_0918
 Proposed Response Response Status W
 PROPOSED REJECT.

This is an attempt to specify the operation of a DBA mechanism, something that has been
 historically out of the scope of 802.3 P2MP standards.

Cl 144 SC 144.3 P132 L33 # 513
 Remein, Duane Huawei
 Comment Type E Comment Status D bucket
 Use of Italics should be reserved for variables and not used for emphasis
 SuggestedRemedy
 Globally scour the draft for inappropriate use of italics and remove.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.3.2.3 P136 L48 # 542
 Kramer, Glen Broadcom
 Comment Type TR Comment Status D
 16-bit integer is not sufficient to hold RTT values in EQ anymore.
 SuggestedRemedy
 In the definitions of newRTT and RTT, change "TYPE: 16-bit unsigned integer" to "TYPE:
 24-bit unsigned integer"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Proposed Responses ical Specifications and Management Parameters for 25Gb/s and 50Gb/s Passive Optical Networks 3rd Ta:

Cl 144 SC 144.4.2.2 P146 L15 # 543
 Kramer, Glen Broadcom

Comment Type T Comment Status D

SplIndex "may have values" is not specific enough, as it does not say that other values are not permitted.

SuggestedRemedy

Replace the definition of SplIndex with the one below:
 "This variable represents the index of the synchronization pattern announced by the OLT in the SYNC_PATTERN MPCPDU. The SplIndex variable takes values 0 or 1 in case when two synchronization patterns are used, or 0, 1, and 2, in case when three synchronization patterns are used. Details about individual synchronization pattern elements, their number, and meaning are covered in 142.2.2.2."

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.4.3 P158 L32 # 539
 Wey, Jun Shan ZTE TX

Comment Type TR Comment Status D

Clarification should be made to relate grant allocation to maximize the peak rate,

SuggestedRemedy

Insert new text as shown in Supplement file wey_3ca_2_0918

Proposed Response Response Status W
 PROPOSED REJECT.

This is an attempt to specify the operation of a DBA mechanism, something that has been historically out of the scope of 802.3 P2MP standards.

Cl 144 SC 144.4.4.1 P168 L3 # 514
 Remein, Duane Huawei

Comment Type T Comment Status D

This statement is not clear: "When multiple channels are assigned, a transmission on each channel shall start at Grant Start Time and shall have the length as necessary to transmit all allocated envelopes together with the associated optical and FEC overhead."

SuggestedRemedy

Change from:
 "When multiple channels are assigned, a transmission on each channel shall start at Grant Start Time and shall have the length as necessary to transmit all allocated envelopes together with the associated optical and FEC overhead." to read:
 "When the bitmap indicates multiple channels are assigned, the transmission start time and duration are the same for all indicated channels as dictated by Grant Start Time and the sum of the EnvLength fields."

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC 144.4.4.4 P172 L31 # 515
 Remein, Duane Huawei

Comment Type TR Comment Status D

Is this Requirement within a requirement needed? "The REGISTER MPCPDU is an instantiation of the Generic MPCPDU and shall be as shown in Figure 144-34 with details defined as follows:
 a) DA. The destination address used shall be an individual MAC address.

SuggestedRemedy

Change:
 "a) DA. The destination address used shall be an individual MAC address." to read:
 "a) DA. The destination address used is an individual MAC address."

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 144 SC Fig 144-3, 144-4 P131 L # 533
 Wey, Jun Shan ZTE TX

Comment Type ER Comment Status D bucket

Figure 144-4 comes before Fig. 144-3

SuggestedRemedy

Reverse the figure numbers

Proposed Response Response Status W
 PROPOSED ACCEPT.