

Proposed Responses

IEEE P802.3ca D2.0 25/50G-EPON Task Force Initial Working Group ballot comments

Cl 143 SC 143.1 P143 L6 # 259

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

Comment Type TR Comment Status D

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 Reconciliation 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.

Proposed Response Response Status W

PROPOSED REJECT.

MCRS is just a specialized version of RS, which has been in use for quite a long time now. There are no changes to MAC, and how MAC operates in Nx25G-EPON.

Cl 143 SC 143.1 P143 L37 # 258

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

Comment Type E Comment Status D

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.

Proposed Response Response Status W

PROPOSED REJECT.

Current figure emphasizes the purpose of Clause 143, covering MCRS function

Cl 143 SC 143.2.4.2 P145 L23 # 32

Hajduczenia, Marek Charter Communications

Comment Type ER Comment Status D 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"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 143 SC 143.2.4.4 P147 L2 # 261

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

Comment Type ER Comment Status D

use of red lines in Fig 143-3. See IEEE-SA Style Guideline - color should not be needed to interpret information, and line drawings should be saved as black/white
See also Fig 143-8, P 152

SuggestedRemedy

Save diagram in black /white

Proposed Response Response Status W

PROPOSED REJECT.

Color is not needed to interpret data and not referenced in text in any way

Cl 143 SC 143.2.5 P148 L33 # 33

Hajduczenia, Marek Charter Communications

Comment Type ER Comment Status D 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"

Proposed Response Response Status W

PROPOSED 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

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Cl 143 SC 143.2.5.2 P149 L25 # 34
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.1 P153 L14 # 262
 D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei
 Comment Type ER Comment Status D
 Vertical text in left / right of diagram of Fig 143-9 is illegible
 SuggestedRemedy
 Use different font to fascilate being able to read text
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.1 P153 L26 # 497
 Brandt, David Rockwell Automation
 Comment Type T Comment Status D post-deadline
 Index is incorrect.
 SuggestedRemedy
 Change: "TXC[N]<3:0>", To: "TXC[N-1]<3:0>"
 Proposed Response Response Status W
 PROPOSED ACCEPT.
 This is a technical comment, type changed to "T"

Cl 143 SC 143.3.1 P153 L26 # 172
 Remein, Duane Futurewei Technologies, Inc.
 Comment Type T Comment Status D
 We seem to have acquired an extra TCX in figure 143-9.
 SuggestedRemedy
 Change: "TXC[N]<3:0>" to "TXC[N-1]<3:0>"
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change: "TXC[N]<3:0>" to "TXC[N-1]<3:0>"

Cl 143 SC 143.3.1.1 P154 L18 # 52
 Hajduczenia, Marek Charter Communications
 Comment Type T Comment Status D
 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
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change "All transmit 25GMII interfaces share a common clock." to "All transmit 25GMII and XGMII interfaces share a common clock." under Table 143-1

Cl 143 SC 143.3.1.2.2 P155 L25 # 304
 Kramer, Glen Broadcom
 Comment Type T Comment Status D
 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 143 SC 143.3.1.2.2 P155 L29 # 35
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.2 P157 L5 # 263
 Kramer, Glen Broadcom
 Comment Type TR Comment Status D 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

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Per proposed changes, less changes to Table 143-3 deleted per comment #272

Cl 143 SC 143.3.2 P157 L25 # 272
 Kramer, Glen Broadcom
 Comment Type T Comment Status D
 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.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Implement option #1

Cl 143 SC 143.3.3 P158 L1 # 273
 Marris, Arthur Cadence Design Systems
 Comment Type E Comment Status D
 Why is some text shaded in Table 143-4?

SuggestedRemedy

Remove shading of CRC8 and other shading if appropriate.

Proposed Response Response Status W
 PROPOSED REJECT.

Shading helps highlight CRC8 field values in different representations. As footnotes to tables 143-5, 143-5, and 143-6 explain, the gray highlight indicates location and calculated value of CRC8 field.

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Cl 143 SC 143.3.3.5 P162 L20 # 367
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D 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>
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See comment #263

Cl 143 SC 143.3.3.5 P163 L28 # 360
 Hajduczenia, Marek Charter Communications
 Comment Type T Comment Status D
 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];
}
```

 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.5 P163 L32 # 178
 Remein, Duane Futurewei Technologies, Inc.
 Comment Type TR Comment Status D 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.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See comment #311

Cl 143 SC 143.3.3.5 P163 L33 # 311
 Lynskey, Eric Broadcom
 Comment Type T Comment Status D 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.
 Proposed Response Response Status W
 PROPOSED 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

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Cl 143 SC 143.3.3.6.2 P165 L15 # 363
 Hajduczenia, Marek Charter Communications
 Comment Type T Comment Status D
 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)
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.6.2 P165 L15 # 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 W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.6.2 P165 L36 # 339
 Laubach, Mark Broadcom
 Comment Type TR Comment Status D
 In Acrobat for my PDF, it looks like a hyphen 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.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.3.6.2 P166 L9 # 264
 Kramer, Glen Broadcom
 Comment Type TR Comment Status D
 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
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.4.4 P169 L15 # 265
 Kramer, Glen Broadcom
 Comment Type TR Comment Status D
 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>);"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.3.4.5.1 P171 L21 # 181
 Remein, Duane Futurewei Technologies, Inc.
 Comment Type TR Comment Status D
 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>
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 143 SC 143.3.4.5.2 P172 L21 # 182

Remein, Duane Futurewei Technologies, Inc.

Comment Type TR Comment Status D

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

Proposed Response Response Status W

PROPOSED 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

Cl 143 SC 143.4.1 P174 L8 # 183

Remein, Duane Futurewei Technologies, Inc.

Comment Type T Comment Status D

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:"

Proposed Response Response Status W

PROPOSED REJECT.

Comment type changed to "T"

No, we used xMII in the generic section because future projects may use it with other types of MII. 25G-EPON uses only 25GMII and bullet (a) explicitly says that we can run 25GMII at full 25G rate or at a slower 10G rate, just like clause 49 says that XGMII can run at full 10G rate or at 2.5G and 5G rates. 25GMII here is correct.

Cl 143 SC 143.4.1.1 P174 L42 # 389

Dawe, Piers Mellanox

Comment Type E Comment Status D

Unnecessary line break

SuggestedRemedy

Also at line 45

Proposed Response Response Status W

PROPOSED REJECT.

Even with full tabel width, text does not fit correctly and breaks across words. This was done on purpose.

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Cl 143 SC 143.4.1.2 P175 L4 # 185
 Remein, Duane Futurewei Technologies, Inc.
 Comment Type T Comment Status D 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
 Proposed Response Response Status W
 PROPOSED 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 P175 L5 # 388
 Dawe, Piers Mellanox
 Comment Type E Comment Status D 143.4.4
 Apparent cross-reference in red "143.4.4" doesn't work.
 SuggestedRemedy
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See comment #185

Cl 143 SC 143.4.1.2 P175 L5 # 54
 Hajduczenia, Marek Charter Communications
 Comment Type E Comment Status D 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See comment #185

Cl 143 SC 143.4.1.2 P175 L5 # 313
 Lynskey, Eric Broadcom
 Comment Type E Comment Status D 143.4.4
 Subclause 143.4.4 does not exist.
 SuggestedRemedy
 Remove the sentence.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 See comment #185

Cl 143 SC 143.4.1.2 P175 L10 # 36
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 143 SC 143.4.1.3.2 P175 L39 # 37
 Hajduczenia, Marek Charter Communications
 Comment Type ER Comment Status D 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"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 143 SC 143.4.2 P176 L28 # 187
Remein, Duane Futurewei Technologies, Inc.
Comment Type TR Comment Status D
What is a DSC_PLID?
SuggestedRemedy
Change to DISC_PLID
Proposed Response Response Status W
PROPOSED ACCEPT.

Cl 143 SC 143.5.4.2 P179 L6 # 106
Anslow, Pete Ciena
Comment Type T Comment Status D
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
Proposed Response Response Status W
PROPOSED ACCEPT.