

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 1st Task Force review comments

CI 00 SC 0 P 17 L # 1060
Mallette, Edwin Bright House Network

Comment Type ER Comment Status A

Multiple cases of "active coaxial distribution network" or "active CCDN" or "active coax cable distribution network" - the correct term is "amplified".

SuggestedRemedy

Change every occurrence related to the active coax cable distribution network to an amplified coax cable distribution network.

Response Response Status C

ACCEPT.
Applicable to all clauses

CI 01 SC 1.4 P 12 L 14 # 1077
Hajduczenia, Marek ZTE Corporation

Comment Type TR Comment Status A Definitions

From all definitions in 1.4, only a handful are actually meaningful and ought to be carried forward into the draft.

SuggestedRemedy

Remove all definitions with the except of the following items:

Coax Cable Distribution Network
Coax Line Terminal
Coax Network Unit
Cyclic Prefix (should be further simplified, it is way too wordy)
OFDM symbol
QAM symbol

Response Response Status C

ACCEPT.
Changes to Cyclic Prefix definition per #1048

CI 01 SC 1.4.x data burst P 12 L 44 # 1046
Mallette, Edwin Bright House Network

Comment Type ER Comment Status A

AGC - Automatic Gain Control is not in the abbreviation list.

SuggestedRemedy

AGC needs to be added to the abbreviation list.

Response Response Status C

ACCEPT.

CI 01 SC 1.4.x channel width P 12 L 18 # 1047
Mallette, Edwin Bright House Network

Comment Type ER Comment Status R Definitions

RF needs to be added to the acronym list.

SuggestedRemedy

Please add RF to the acronym list.

Response Response Status C

REJECT.

The list of acronyms does not have to be exhaustive. We typically include only acronyms that are brand new and do not have industry-known expansion. This is not the case with RF, which is a well-known acronym.

CI 01 SC 1.4.x cyclic prefix over P 12 L 26 # 1048
Mallette, Edwin Bright House Network

Comment Type T Comment Status A Definitions

cyclic prefix overhead definition has a formula and extensive description, which seems atypical. The specific detail seems better detailed within the draft body.

SuggestedRemedy

Recommend striking all text after the first sentence. Thus starting with "The duration of the cyclic prefix" ... to "OFDM symbol without the cyclic prefix."

Response Response Status C

ACCEPT.
See also #1077

Changed from E to T

CI 01 SC 1.4.x data burst P 12 L 39 # 1050
Mallette, Edwin Bright House Network

Comment Type E Comment Status A Definitions

Data burst and "burst mode operation" is exhaustively described in 76.3.2.5 and there is no need for this lengthy description.

SuggestedRemedy

Please strike subclause 1.4.x data burst.

Response Response Status C

ACCEPT.
See also #1077

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Cl 01 SC 1.4.x data detector P 12 L 48 # 1049
Mallette, Edwin Bright House Network

Comment Type E Comment Status A Definitions

The data detector is exhaustively described in 76.3.2.5. There is no need for this addition of text.

SuggestedRemedy

Please strike the data detector sub-clause.

Response Response Status C

ACCEPT.
See also #1077

Cl 01 SC 1.4.x Idle Deletion P 13 L 27 # 1051
Mallette, Edwin Bright House Network

Comment Type E Comment Status A Definitions

idle deletion is exhaustively described in 76.3.2.1 and there is no need for this lengthy description. This text was not required for 10G-EPON. Why is it needed for EPoC ?

SuggestedRemedy

Recommend striking this subsection.

Response Response Status C

ACCEPT.
See also #1077

Cl 01 SC 1.4.x Idle Insertion P 13 L 33 # 1052
Mallette, Edwin Bright House Network

Comment Type E Comment Status A Definitions

idle insertion is exhaustively described in 76.3.3.7 and there is no need for this lengthy description. This text was not required for 10G-EPON. Why is it needed for EPoC ?

SuggestedRemedy

Strike this subclause.

Response Response Status C

ACCEPT.
See also #1077

Cl 01 SC 1.4.x Interleaver P 13 L 36 # 1053
Mallette, Edwin Bright House Network

Comment Type T Comment Status R Definitions

In IEEE Std 802.3-2012 definition for a Scrambler includes the following statement: "avoid the presence of spectral lines in the signal spectrum without changing the signaling rate." Are the requirements to not change the signaling rate by passing through an interleaver assumed ? If so, should we add it for parallelism ?

SuggestedRemedy

Add text stating that signaling rate is not effected by passing through the interleaver, if that statement is, in fact, correct.

Response Response Status C

REJECT.
No clear resolution to this comment at this time. At best, discussion is needed at the meeting.

Cl 01 SC 1.4.x Round Trip Time P 14 L 24 # 1054
Mallette, Edwin Bright House Network

Comment Type E Comment Status A Definitions

Round trip time and the EPON ranging process is fully described within 77.2.1.1.

SuggestedRemedy

Recommend not describing RTT in the definitions, thus please strike.

Response Response Status C

ACCEPT.
See also #1077

Cl 01 SC 1.4.x switching P 14 L 34 # 1055
Mallette, Edwin Bright House Network

Comment Type TR Comment Status A Definitions

"Switching" is a heavily overloaded term. This should not be included broadly within the definitions. For instance, "switching" occurs in 802.3 page 830 to indicate changing operations from 1Gb/s to 10Gb/s operational mode. It is also used to describe switching between a weak transmit power and a strong transmit power.

SuggestedRemedy

Recommend striking this subsection and completely relying on the context within the section in question to describe the TDD mode of switching or turn-around time.

Response Response Status C

ACCEPT.
See also #1077

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Cl **101** SC **P 29** L **1** # **1062**
Mallette, Edwin Bright House Network

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

It is very difficult to understand how clause 101 is different than clause 76. To review the section with any hope of understanding I have to continually switch between clause 76 and clause 101.

SuggestedRemedy

Recommend a couple possible remedies:

1) Copy clause 76 to clause 101 and make changes to clause 101 with change tracking on so the reader can clearly identify the changes between clause 101 and clause 76.

2) Place a note to the editor indicating to copy clause 76 to clause 101 with the following changes (if the changes are substantial, this is probably less ideal than 1 above.)

Response Response Status **C**

REJECT.

PCS for EPoC is distinctly different from PCS in 10G-EPON in more than one way, and as such it is not possible to reuse in any large portion Clause 76. We do reuse some concepts, but state diagrams, textual description, etc. need to be adapted to specific EPoC needs.

Cl **102** SC **102** P **65** L **1** # **1078**
Hajduczenia, Marek ZTE Corporation

Comment Type **TR** Comment Status **D** CL 102 whole

Clause 102 is currently completely unreadable in that it presents bulk material that was not modified from original clause 77 (probably 95% or more). It is very difficult for a reader to find what locations were modified and actually focus on the text that was modified.

SuggestedRemedy

Suggest to:

1) remove existing text and replace it with the following editorial instruction "Copy all content from Clause 77 and apply the following changes:"

2) after this instruction, show only the changes that are required to Clause 77 to make it work for EPoC. These ought to be shown using regular editorial instructions and not through copy of the whole clause material.

Proposed Response Response Status **W**

PROPOSED REJECT.

See comment 1063 for resolution

Cl **102** SC **102.1** P **29** L **11** # **1061**
Mallette, Edwin Bright House Network

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

Why does this following information matter ?

"P2MP is an asymmetric medium based on a tree (or tree-and-branch) topology. The DTE connected to the trunk of the tree is called cable line terminal (CLT) and the DTEs connected at the branches of the tree are called cable network units (CNU). The CLT typically resides at the service provider's facility, while the CNUs are located at the subscriber premises."

"In the downstream direction (from the CLT to a CNU), signals transmitted by the CLT pass through a cascade of interconnected splitters, taps, combiners and amplifiers and reach each CNU" is not precisely correct. In the upstream direction (from the CNUs to the CLT), the signal transmitted by an CNU would only reach the CLT, but not other CNUs."

SuggestedRemedy

The first paragraph shown above is a repeated statement from previous text. The second paragraph is irrelevant to MAC control. All that's needed is a description that we have multiple stations attached to the same P2MP topology and as a result we need a way to avoid data collisions and increase the efficiency of the subscriber access network followed by TDD and FDD operational differences -> mandatory information.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

While this text is in both CL 64 & 75 it can be simplified here.

Replace the para with: "The EPoC topology is similar to the P2MP topology of EPON with the optical line terminal being replaced by a cable line terminal (CLT), the optical network units replaced by cable network units (CNU) and operating over a coaxial network rather than an optical network."

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 1st Task Force review comments

CI 102 SC all P 29 L # 1063
Mallette, Edwin Bright House Network

Comment Type T Comment Status D CL 102 whole

It is very difficult to understand (in some cases) how clause 102 is different than clause 64. To review the section with any hope of understanding I have to continually switch between clause 64 and clause 101.

SuggestedRemedy

Recommend a possible remedies:

Copy clause 64 to clause 102 and make changes to clause 102 with change tracking on so the reader can clearly identify the changes between clause 102 and clause 64. For completely new sections, you could annotate that or leave it with change tracking on.

Proposed Response Response Status W

PROPOSED REJECT.

The text was imported per motion #8 in Orlando: "Approve garavaglia_3bn_02a_0313 as a baseline for EPoC TDD MPCP, Clause 103" which passed unanimously.

However, the Editor will produce a diff file using CI 76 and CI 102 for reviewer's convenience during the initial TF review.

Changed Comment Type from null to T

CI 56 SC 56.1 P L 27 # 1057
Mallette, Edwin Bright House Network

Comment Type T Comment Status R

This statement: "An important characteristic of EFM is that only full duplex links are supported" is no longer true with TDD.

SuggestedRemedy

Strike this sentence and then add text that a half duplex mode of operation in TDD-mode is available for EPoC PHYs. After the last sentence in the text you will have to also add the TDD half-duplex mode.

Response Response Status C

REJECT.

The commenter is invited to suggest text for EPoC that notifies the reader that EPoC uses a time division duplex mode (TDD).

CI 56 SC 56.1 P 17 L 15 # 1056
Mallette, Edwin Bright House Network

Comment Type E Comment Status A

There are a couple editorial issues with the new text shown below:

Furthermore, the EFM also introduces the concept of EPON Protocol over Coax (EPoC) networks, in which P2MP network topology is implemented over a passive or active coaxial distribution network (CCDN), along with extensions to the MAC Control sublayer and Reconciliation sublayer as well as coaxial PMDs to support this topology.

SuggestedRemedy

- 1) "the EFM" should be "EFM"
- 2) "in which P2MP network topology" should be "in which a P2MP network topology"
- 3) "coaxial distribution network (CCDN)" should be "Coax Cable Distribution Network (CCDN)"
- 4) The use of the word "active" should be "amplified.)

Response Response Status C

ACCEPT IN PRINCIPLE.

- 1) "the EFM" should be "EFM"
- 2) "in which P2MP network topology" should be "in which a P2MP network topology"
- 3) "coaxial distribution network (CCDN)" should be "coax cable distribution network (CCDN)"
- 4) The use of the word "active" should be "amplified".)

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 1st Task Force review comments

CI 56 SC 56.1.2 P 17 L # 1059
Mallette, Edwin Bright House Network

Comment Type ER Comment Status A

A couple comments about sub-bullet b:

1) because of the insertion of the different upstream and downstream rates, the words in the downstream direction and in the upstream direction need to be stated.

2) I do not understand why this needs to be stated... "shared amongst the population of Coax Network Units (CNUs) attached to the Coax Distribution Network (CCDN)?"

3) I also thought for TDD operation it was going to require changes to MAC Control

SuggestedRemedy

1) Recommend the following text: with a nominal bit rate of up to XXX Mb/s in the downstream direction and up to XXY Mb/s in the upstream direction.

2) Recommend striking the following text: "shared amongst the population of Coax Network Units (CNUs) attached to the Coax Distribution Network (CCDN)"

Response Response Status C

ACCEPT.

CI 56 SC 56.1.2 P 17 L # 1058
Mallette, Edwin Bright House Network

Comment Type ER Comment Status A

A couple comments about sub-bullet a:

1) because of the insertion of the different upstream and downstream rates, the words in the downstream direction and in the upstream direction need to be stated.

2) I do not understand why this needs to be stated... "shared amongst the population of Coax Network Units (CNUs) attached to the Coax Distribution Network (CCDN)?"

SuggestedRemedy

1) Recommend the following text: with a nominal bit rate of up to XXX Mb/s in the downstream direction and up to XXY Mb/s in the upstream direction.

2) Recommend striking the following text: "shared amongst the population of Coax Network Units (CNUs) attached to the Coax Distribution Network (CCDN)"

Response Response Status C

ACCEPT.

CI 56 SC 56.1.2 P 17 L 0 # 1074
Hajduczenia, Marek ZTE Corporation

Comment Type E Comment Status A

No lines in Clause 56

SuggestedRemedy

Add lines as required in the draft for proper commenting
The same applies to Clause 67

Response Response Status C

ACCEPT.

CI 56 SC 56.1.2 P 17 L 0 # 1075
Hajduczenia, Marek ZTE Corporation

Comment Type E Comment Status A

in bullet b) added in 56.1.2, we do not need yet again to expand on the very same acronyms, that were already expanded upon in bullet a).

SuggestedRemedy

Revise the text in bullet b) to read as follows:
EPoC operating in the TDD mode, with a nominal bit rate of up to XXX Mb/s in downstream and up to XXY Mb/s in upstream directions, shared amongst the population of CNUs attached to the CCDN. The P2MP EPoC PHYs use the {EPoC_PMD_Name} PCS, the PMA sublayer, and the mandatory FEC function defined in Clause 101.

Response Response Status C

ACCEPT IN PRINCIPLE.

Revise the text in bullet b) to read as follows:
EPoC operating in the TDD mode, with a nominal bit rate of up to XXX Mb/s in the downstream direction and up to XXY Mb/s in the upstream direction. The P2MP EPoC PHYs use the {EPoC_PMD_Name} PCS, the PMA sublayer, and the mandatory FEC function defined in Clause 101.

IEEE 802.3bn EPON Protocol over Coax (EPoC) TF 1st Task Force review comments

CI 56	SC 56.1.2.1	P 18	L 0	# 1076
Hajduczenia, Marek		ZTE Corporation		

Comment Type E **Comment Status A**

No need to expand MPCP in the following text: "The Multipoint MAC Control Protocol (MPCP) for EPoC uses messages, state diagrams, and timers, as defined in Clause 102 to control access to a P2MP CCDN topology. "

SuggestedRemedy

Revise as follows: "The MPCP for EPoC uses messages, state diagrams, and timers, as defined in Clause 102 to control access to a P2MP CCDN topology."

Response **Response Status C**

ACCEPT.