

IEEE 802.3 Interpretation 1-07/06 D1.0 comments

CI 00 SC P 6 L 13 # 16
Brad Booth AMCC

Comment Type E Comment Status A

An extra I was added.

SuggestedRemedy

Change to be:
'Idle in ||||'

Response Response Status C

ACCEPT.

CI 00 SC P 6 L 13 # 2
Brett McClellan Solarflare

Comment Type E Comment Status A

typos: "'Idle in ||||', not" should be "'Idle in ||||', nor"

SuggestedRemedy

correct as shown above

Response Response Status C

ACCEPT.

CI 00 SC P 6 L 25 # 17
Brad Booth AMCC

Comment Type E Comment Status R

.'. should be just .'

SuggestedRemedy

As per comment. Occurs in multiple instances.

Response Response Status C

REJECT.

The first one is a period and the second is a full stop.

CI 00 SC P 6 L 29 # 18
Brad Booth AMCC

Comment Type E Comment Status A

Typo.

SuggestedRemedy

`Clock should just be `Clock.

Response Response Status C

ACCEPT.

CI 00 SC P 6 L 32 # 8
Ilango Ganga Intel

Comment Type E Comment Status A

Answer to Question 3c: Change "unenclosed domain" to "unencoded domain". Also "data stream" could be used instead of "domain", to be consistent with the explanation in 48.2.4.2.3. Hence the last sentence of the paragraph could be rephrased as follows.

SuggestedRemedy

Rephrase the sentence as follows: "Hence in the encoded data stream deletion has to be a whole column, whereas in the unencoded data stream it does not".

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement suggested change and also change '.. domain ..' to '.. data stream ..' on page 7, line 9 and 14.

CI 00 SC P 6 L 32 # 19
Brad Booth AMCC

Comment Type E Comment Status A

Missing an 'and', and unenclosed incorrectly used.

SuggestedRemedy

Insert 'and' to make end of sentence read:
and in the unencoded domain...

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment #8.

The word 'whereas' will be added rather than 'and'.

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CI 00 SC P 6 L 32 # 3
 Brett McClellan Solarflare
 Comment Type E Comment Status A
 typo: "unenclosed" should be "unencoded"
 SuggestedRemedy
 correct as shown above
 Response Response Status C
 ACCEPT.

CI 00 SC P 7 L 14 # 6
 Ilango Ganga Intel
 Comment Type E Comment Status A
 In answer to Question 3g - part 2: Delete "above" from end of the line to be consistent with other answers that refer to question 3a, 3b. (or) If it is required to keep the sentence as "see answer to question 3a above" then add "above to all the answers that refer to 3a,3b."
 SuggestedRemedy
 As per comment
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 The word 'above' will be deleted from end of the line.

CI 00 SC P 7 L 14 # 20
 Brad Booth AMCC
 Comment Type E Comment Status A
 Incorrect spelling.
 SuggestedRemedy
 Change to be: unencoded
 Also, insert a comma after domain.
 Response Response Status C
 ACCEPT.

CI 00 SC P 7 L 20 # 21
 Brad Booth AMCC
 Comment Type E Comment Status A
 Incorrect spelling.
 SuggestedRemedy
 that = than
 Response Response Status C
 ACCEPT.

CI 00 SC P 7 L 27 # 7
 Ilango Ganga Intel
 Comment Type E Comment Status A
 Answer to Question 5: UK English versus US English for spelling "synchronisation".
 SuggestedRemedy
 Change spelling to US English "synchronization" to be consistent with spelling for synchronization in 802.3-2005.
 As per comment
 Response Response Status C
 ACCEPT.

CI 00 SC P 7 L 9 # 4
 Brett McClellan Solarflare
 Comment Type E Comment Status A Technical
 typo: "decoded" should be "encoded"
 SuggestedRemedy
 correct as shown above
 Response Response Status C
 ACCEPT.

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CI 00 SC P 7 L 9 # 5
 Brett McClellan Solarflare
 Comment Type E Comment Status A
 typo: "unedcoded" should be "unencoded"
 SuggestedRemedy
 correct as shown above
 Response Response Status C
 ACCEPT.
 Note - typo is on line 14, not line 9.

CI 03 SC 3a P 6 L 20 # 23
 Pat Thaler Broadcom
 Comment Type TR Comment Status A
 I think we should document the bug in the standard better to aid in fixing it correctly and because the current standard allows deletion of an idle ordered_set that could cause a packet to be dropped. Until we put a fix in place it would be appropriate to let implementers know about the issue so they can avoid it and to document the bug well enough to ensure it gets fixed.
 SuggestedRemedy
 Add the following between the two sentences of the current response:
 Also subclause 48.2.4.2.3 allows deletion of a set of 4 idles that will result in loss of a packet. Consider the following sequence of columns
 Column 1 2 3 4 5
 Lane0.... D I O I I
 Lane1.... T I O I I
 Lane2.... I I O I I
 Lane3.... I I O I I
 Column 1 contains a terminate, column 3 contains an sequence ordered_set. Deletion of column 2 appears to be allowed by all the criteria in 48.2.4.2.3: it is a group of 4 Idle characters and deleting it will leave a greater than five character IPG even if the ordered set is not counted. If column 2 is deleted, the check_end function (48.2.6.1.4) will insert E in lanes 2 and 3 of the column before 1 and in lanes 0 and 1 of column 1 because the column after the ||T|| column contains code groups other than /A/ or /K/.
 Response Response Status C
 ACCEPT.

CI 03 SC 3b P 6 L 24 # 22
 Pat Thaler Broadcom
 Comment Type TR Comment Status A
 This answer isn't correct. The question included "sequence, transmit error propagation or invalid control characters." In that set, idles are not the only column that can be deleted.
 SuggestedRemedy
 Subclause 48.2.4.3 has the rules concerning what can be deleted. It states that 'Idle insertion or deletion occurs in groups of four Idle characters.' It also states "Sequence ordered_sets are deleted to adapt between clock rates." and "Sequence ordered_set deletion occurs only when two consecutive sequence ordered_sets have been received and deletes only one of the two." Hence the only code group "other than idle" that may be deleted is a sequence ordered_set that is adjacent to another sequence ordered_set.

Response Response Status C
 ACCEPT.
 CI 03 SC 3d P 6 L 32 # 24
 Pat Thaler Broadcom
 Comment Type E Comment Status A
 "unenclosed domain" ?
 SuggestedRemedy
 should be "unencoded domain"
 Response Response Status C
 ACCEPT.

CI Interpre SC Question3c P 6 L 32 # 31
 Jeff Lapak UNH-IOL
 Comment Type E Comment Status A
 Spelling Error
 SuggestedRemedy
 Replace the word unenclosed with unencoded
 Response Response Status C
 ACCEPT.

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CI **Interpre** SC **Question5** P **7** L **27** # **25**
 Jeff Lapak UNH-IOL
 Comment Type **E** Comment Status **A**
 Spelling Error
 SuggestedRemedy
 Replace the word synchronisation with synchronization
 Response Response Status **C**
 ACCEPT.

CI **Q2** SC P **6** L **14** # **9**
 Piers Dawe Avago Technologies
 Comment Type **E** Comment Status **A**
 Not proper names
 SuggestedRemedy
 Lower case: reserved, invalid
 Response Response Status **C**
 ACCEPT.

CI **Q2** SC P **6** L **15** # **10**
 Piers Dawe Avago Technologies
 Comment Type **T** Comment Status **A**
 This sentence mystifies me. Why are we talking about an XGMII data code of 0x07? Does it somehow follow from the question (how?) or is it an example the respondent has made up by way of illustration? (If so, say so.) By "XGMII data code" does he mean an XGMII data character? Or 3 or 4 similar ones? Is the "control code" an XGMII control character, one bit of TXC of Table 48-2, TXC<3:0> or what? (If it's one bit of TXC, it's not "0x1" but simply binary 1). According to Table 48-2, TXC=1 with TXD=07 codes to idle, not K30.7.
 SuggestedRemedy
 ?
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 Add '(a data code of 0x07 with a control code of 0x0 is the XGMII code for //)'.
 ACCEPT.

CI **Q3** SC P **6** L **32** # **11**
 Piers Dawe Avago Technologies
 Comment Type **E** Comment Status **A**
 unenclosed
 SuggestedRemedy
 unencoded. Is this the official terminology anyway?
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.

The word 'unenclosed' will be corrected to be 'unencoded'.

Unencoded is the term used in subclause 48.2.4.2.3 Skip ||R|| which reads 'Clock rate compensation may be performed via insertion or removal of either Idle characters in the unencoded data stream or ||R|| in the encoded Idle stream.'

CI **Q3** SC **g1** P **7** L **9** # **12**
 Piers Dawe Avago Technologies
 Comment Type **E** Comment Status **A**
 decoded
 SuggestedRemedy
 encoded?
 Response Response Status **C**
 ACCEPT.

CI **Q3** SC **g2** P **7** L **14** # **13**
 Piers Dawe Avago Technologies
 Comment Type **E** Comment Status **A**
 unedcoded
 SuggestedRemedy
 unencoded?
 Response Response Status **C**
 ACCEPT.

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Cl **Q3c** SC P **6** L **32** # **1**
Robert Grow Intel Corporation

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

Spell check finger fault error?

SuggestedRemedy

Change "unenclosed" to "unencoded"

Response Response Status **C**

ACCEPT.

Cl **Q4** SC P **7** L **17** # **14**
Piers Dawe Avago Technologies

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

Be kind to the reader!

SuggestedRemedy

Point out that the text in question is in 48.2.6.1.3 not 46.2.6.1.3.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

We will add text to point out that the submitted question refers to wrong clause.

Cl **Q4** SC P **7** L **20** # **15**
Piers Dawe Avago Technologies

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

that

SuggestedRemedy

than

Response Response Status **C**

ACCEPT.

Cl **Questio** SC P **6** L **10** # **26**
Hugh Barrass Cisco Systems

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

I do not agree that the source is unambiguous. I think that option 1 (or 4) is also a valid interpretation. However the end result is the same as both will lead to an error being detected by the receiver.

SuggestedRemedy

Change "Unambiguous." to "Ambiguous."

Change the following text to read:

This represents an ambiguity in the standard. This has been brought to the attention of the Working Group for possible action at the next revision.

In the example given in question 2, there is not a full column of Idle, and therefore this cannot be considered to be a `|||` ordered_set (see subclause 48.2.4.2). Hence these codes cannot be considered to be æidle in `|||`Æ, nor æidle in `||T`Æ, as defined in Table 48-2. Instead therefore they should be considered either a Reserved XGMII character or Invalid XGMII character. An XGMII data code of 0x07 with a control code of 0x1 is an invalid XGMII character and will be encoded as /K30.7/. Option 2 is therefore the preferred interpretation.

However, "Error is signaled per lane since code-violations are detected on a per lane basis" (see subclause 48.2.4.4) therefore an alternative interpretation is that an error has been detected in an `|||` ordered set and should be signaled on a per-lane basis. This would indicate that option 4 (also option 1) is a valid interpretation.

Note that either interpretation will allow the receiver to detect that an error has occurred and will lead to the same end result.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change the response to read:

There are two alternatives interpretations however both enable the receiver to unambiguously detect that an error has occurred and will lead to the same end result. Theses two alternatives are as follows:

[Alternative 1] In the example given in question 2, there is not a full column of Idle, and therefore this cannot be considered to be a `|||` ordered_set (see subclause 48.2.4.2). Hence these codes cannot be considered to be 'Idle in `|||`', not for that matter 'Idle in `||T`', as defined in Table 48-2. Instead therefore they have to be considered either a reserved XGMII character or invalid XGMII character. An XGMII data code of 0x07 with a control code of 0x1 is an invalid XGMII character and will be encoded as /K30.7/ (a data code of 0x07 with a control code of 0x0 is the XGMII code for /I/). Option 2 would be therefore be the interpretation for this alternative.

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[Alternative 2] Subclause 48.2.4.4 states 'Error is signaled per lane since code-violations are detected on a per lane basis' therefore an alternative interpretation is that an error has been detected in an ||| ordered set and that this should be signaled on a per-lane basis. Option 4 would be therefore be the interpretation for this alternative.

Cl **Questio** *SC* *P* **6** *L* **19** # **27**
Hugh Barrass Cisco Systems

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

I do not agree that the text in 46.2.1 is ambiguous. It may not convey the intent of the Working Group that drafted the paragraph but it is, nonetheless unambiguous.

SuggestedRemedy

Change "Ambiguous." to "Unambiguous."

Change the following text to read:

The first sentence in 46.2.1 states unequivocally, "The inter-frame <inter-frame> period on an XGMII transmit or receive path is an interval during which no frame data activity occurs." This does not make any relation between any specific code groups and the definition of inter-frame period.

The second sentence in 46.2.1 makes assertions regarding the start and end of the inter-frame period. "The <inter-frame> corresponding to the MAC interpacket gap begins with the Terminate control character, continues with Idle control characters and ends with the Idle control character prior to a Start control character." Therefore the first characters of the inter-frame period must be Terminate and some number of Idle control characters. After that there may be other control (non-frame data) characters as long as the inter-frame period finishes with an Idle control character followed by a Start control character.

The final sentence of 46.2.1 states that "The minimum IPG at the XGMII of the receiving RS is five octets." The counting of "octets" is not restricted to Idle control codes.

Therefore the answer to question 3a) is unambiguously "yes."

Response *Response Status* **C**
REJECT.

Taking a very conservative viewpoint the word 'continues' could be seen to imply that the IPG is only counted during the Idle control characters.

Cl **Questio** *SC* *P* **6** *L* **34** # **28**
Hugh Barrass Cisco Systems

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

I do not agree that the text in 46.2.1 is ambiguous. It may not convey the intent of the Working Group that drafted the paragraph but it is, nonetheless unambiguous.

SuggestedRemedy

Change "Ambiguous." to "Unambiguous."

Change the following text to read:

As stated in the response to question 3a) the counting of octets in the IPG is not dependent on Idle control codes.

Therefore the answer to question 3d) is unambiguously "yes." It should be noted, however, that the sequence shown in the example does not conform to the definition of 46.2.1 as interpreted in the response of question 3a).

Response *Response Status* **C**
REJECT.

See #27.

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<i>Cl</i>	Questio	<i>SC</i>	<i>P</i>	7	<i>L</i>	4	#	29
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Hugh Barrass Cisco Systems

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

I do not agree that the text in 46.2.1 is ambiguous. It may not convey the intent of the Working Group that drafted the paragraph but it is, nonetheless unambiguous.

SuggestedRemedy

Change "Ambiguous." to "Unambiguous."

Change the following text to read:

As stated in the response to question 3a) the counting of octets in the IPG is not dependent on Idle control codes. Therefore the inter-frame period after deletion would be 5 octets.

However, if column 3 is deleted in the example the remaining inter-frame period would start with only 1 Idle following a Terminate and would end with an Error preceding a Start. This is in contradiction to the definition in 46.2.1.

Therefore the answer to question 3f) is unambiguously "no." It should be noted, however, that this may not correspond to the spirit of the definition and will be brought to the attention of the Working Group for possible action at the next revision.

Response *Response Status* **C**

REJECT.

See #27.

<i>Cl</i>	Questio	<i>SC</i>	<i>P</i>	7	<i>L</i>	13	#	30
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Hugh Barrass Cisco Systems

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

I do not agree that the text in 46.2.1 is ambiguous. It may not convey the intent of the Working Group that drafted the paragraph but it is, nonetheless unambiguous.

SuggestedRemedy

Change "Ambiguous." to "Unambiguous."

Change the following text to read:

As stated in the response to question 3a) the counting of octets in the IPG is not dependent on Idle control codes.

Therefore the answer to question 3g) for an uncoded data stream is unambiguously "yes." It should be noted, however, that the sequence shown in the example does not conform to the definition of 46.2.1 as interpreted in the response of question 3a).

Response *Response Status* **C**

REJECT.

See #27.