

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 04 SC 2.7.2 P 10 L 29 # 12  
 Gupta, Tanmay Intel Corp

Comment Type T Comment Status A

txFinelfsStretchRatio is defined as the number of bits in a packet that would require 32 octets of interFrameSpacing extension. Since 32 octets of IFS is added at a time, for scenarios where rate reduction needed is small (like SONET/SDH WAN rate of 9.953 Gbps) the number of packet octets after which the 32 octet stretch is added becomes very large. This results in undesirable bursty behavior.

SuggestedRemedy

Define ifsStretch ratio in terms of number of bits in packet that would require N octets of interFrameSpacing extension  
 N = is specified when specifying ifsstretch ratio  
 large value of N can be used to get low rates and small value to get high rates

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

The commenter is incorrect in assuming that increased IFS must be added in blocks of 32 octets. Clause 4.2.8, process BitTransmitter intends that IFS is increased in blocks of 8 bits. The decision of the March Task Force meeting was to increase the granularity by factor of 32 without changing the structure of the process.

Add parenthesis to line in BitTransmitter to make it clear that the multiply happens before the divide.

The flavor text next to the variable definition does not state that blocks of 32 octets must be added, but it is sufficiently ambiguous to make such mistakes common. Therefore the following text needs to be added at the end of the comment text:

"Note that each interFrameSpacing is increased by an integer number of octets, the average increase is ( frame length in bits ) \* 32 / txFinelfsStretchRatio )."

This must also be added to 4A.2.7.2 & changed in 4A.2.8.

Cl 04 SC 4.2.3.2.2 P 09 L 23 # 41  
 Daines, Kevin WWP

Comment Type E Comment Status A

The P802.3as TF, in its most recent draft (802.3as/D3.1) changed ""interframe spacing"" to ""interpacket gap"". 802.3ar/D1.3 will need to align with the terminology used in 802.3as.

SuggestedRemedy

In general, the following changes were made in 802.3as/D3.1:

interFrameSpacing -> interPacketGap  
 interframe spacing -> inter packet gap  
 ifsStretch -> ipgStretch

Please make the appropriate edits.

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

Editor will find and replace all instances of those three variables. Use 802.3-2005, modified by P802.3as as the base for the next draft.

Cl 04 SC 4.2.7.2 P 10 L 5 # 42  
 Daines, Kevin WWP

Comment Type E Comment Status A

The first part of the editor's note is correct. However, with the recent change in P803.as/D3.1, the second part is no longer correct.

SuggestedRemedy

Please delete the line ""A future revision of the standard...""

Proposed Response Response Status C

ACCEPT.

Cl 04 SC 4.2.7.2 P 10 L 18 # 19  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status A

Variables are in a different order for transmit and receive side, making extra work for the reader.

SuggestedRemedy

Use the same order for for transmit and receive side.

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

Reorder receive variable in 4.2.7.3 and also 4A.2.7.3.

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 04 SC 4.2.7.2 P 10 L 18 # 18  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status R  
 Variable names are too long and some are tautologous. Note that only a few variables have tx, rx twins.

SuggestedRemedy  
 Change txRateLimitPayloadRateEnable to txLimitPayloadRateEnable, txRateLimitFrameRateEnable to txLimitFrameRateEnable, txRateLimitEnable to RateLimitEnable, txAdditionalFrameOverhead to AdditionalFrameOverhead, rxRateLimitPayloadRateEnable to rxLimitPayloadRateEnable and rxRateLimitFrameRateEnable to rxLimitFrameRateEnable.

Proposed Response Response Status C  
 REJECT.

Modern editing and viewing tools allow "cut and paste" actions that make the handling of long names straightforward.

If the terms "rate limit" and "payload rate" are treated holistically then there is no tautology.

The use of the tx prefix is applied to all of the tx variables, regardless of the rx twins.

Cl 04 SC 4.2.7.2 P 10 L 39 # 48  
 Daines, Kevin WWP

Comment Type T Comment Status A  
 Is the following sentence accurate ""If ifsStretchMode is not set then ifsStretchMode is not used."" ??

Or, should it be ""If ifsStretchMode is not set then txFinelfsStretchRatio is not used."" ??

Upon further review, txIfsStretchRatio appears 11 times, while txFinelfsStretchRatio appears 14 times. Perhaps not all of the instances of txIfsStretchRatio were changed.

SuggestedRemedy  
 Verify and fix if necessary

Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.

Change to:

If ifsStretchMode is not set then ifsStretchRatio is not used.

Some comments already address individual instances where txIfsStretchRatio are used. The editor will conduct a search and replace for other inconsistencies.

Cl 04 SC 4.2.8 P 11 L 18 # 20  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status A  
 Editor's note is not correct

SuggestedRemedy  
 ... changes only to process Deference and procedure StartTransmit, and adds a new process BitTransmitter

Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.

"This draft makes changes only to processes Deference, StartTransmit and BitTransmitter and adds a process FrameRateTimer."

Also in 4A.2.8

Cl 04 SC 4.2.8 P 11 L 27 # 22  
 Dawe, Piers Avago Technologies

Comment Type ER Comment Status A  
 This subclause appears to have been copied without its formatting information. Text in italics is no longer, and importantly, a couple of less than or equals signs (symbol font) have been turned into gibberish.

SuggestedRemedy  
 Copy afresh from the master document. I made this an ER to ask: do all editors know how to stop this happening again?

Proposed Response Response Status W  
 ACCEPT.

This required the provision of the original FrameMaker files for the source document.

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 04 SC 4.2.8 P 11 L 27 # 23  
 Dawe, Piers Avago Technologies  
 Comment Type T Comment Status A  
 I'm not sure the Pascal for waiting would work.  
 SuggestedRemedy  
 Either there should be a call to FrameRateTimer in place of 'do nothing', or  
 FrameRateTimer needs a line txFrameRateTimer := 0 after the wait line.  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Page number should be 17.  
 Insert line  
 txFrameRateTimer := 0; {clear frame rate timer}  
 After the "wait" line.  
 Also for 4A.2.8

Cl 04 SC 4.2.8 P 12 L 21 # 21  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status R  
 In this clause, \* means Applicable only to half duplex operation at 1000 Mb/s. Makes no  
 sense here.  
 SuggestedRemedy  
 Whatever \* is supposed to mean here, find another way of saying it.  
 Proposed Response Response Status C  
 REJECT.  
 This is copied from the existing Clause, no change is being made to this text.

Cl 04 SC 4.2.8 P 14 L 41 # 43  
 Daines, Kevin WWP  
 Comment Type E Comment Status A  
 Special symbol problem  
 SuggestedRemedy  
 Replace with correct special symbol  
 Proposed Response Response Status C  
 ACCEPT.

Cl 30 SC 30.2.5 P 30 L 41 # 40  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 It looks like NOTE 1 is part of Table 30-1, not after it. One is normative, the other not  
 SuggestedRemedy  
 Review and change if appropriate. BTW, NOTE 1 lacks a 'b' in aMACCapailities.  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 NOTE 1 is part of Table 30-1, NOTE 2 is inserted after NOTE 1, therefore it is also part of  
 Table 30-1.  
 The typo will be fixed as the only service to humanity offered by this project.

Cl 30 SC 30.2.5 P 30 L 44 # 44  
 Daines, Kevin WWP  
 Comment Type E Comment Status A  
 Note 2 does not include aTxFinelfsStretchRatio.  
 SuggestedRemedy  
 Add aTxFinelfsStretchRatio  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Change aTxIfsStretchRatio to aTxFinelfsStretchRatio

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 30 SC 30.2.5 P 30 L 47 # 38  
 Dawe, Piers Avago Technologies

Comment Type T Comment Status R

The attributes listed are pointless for systems that do not implement rate control. So don't say they are recommended. Also, this language is not precise.

SuggestedRemedy

'... attributes are members of the Mandatory Package in systems that implement rate control, except for systems that use a fixed value of txlfsStretchRatio of 104 bits (see 4.4.2). They are in the Optional Package for other systems.' Move the Xs to the Optional Package column.

Proposed Response Response Status C

REJECT.

Systems that don't implement rate control can still benefit from indicating their lack of support using the "status" objects. This is similar behavior to aDuplexStatus for systems that don't support full duplex.

Cl 30 SC 30.2.5 P 30 L 47 # 39  
 Dawe, Piers Avago Technologies

Comment Type T Comment Status R

What do you mean by 'systems'?

SuggestedRemedy

Use the appropriate word or phrase. MACs? DTE or repeaters?

Proposed Response Response Status C

REJECT.

The use of "systems" in this context is consistent with the definition in the current standard.

Cl 30 SC 30.3.1.1.33 P 317 L 41 # 13  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status A

The behaviour for aRateControlAbility needs rewording, now that there are several rate control methods.

SuggestedRemedy

Revise the definition of behaviour. Consider changing the name of the attribute.

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

Change the definitions of aRateControlAbility and aRateControlStatus to indicate support only for the legacy rate control function.

Cl 30 SC 30.3.1.1.38 P 31 L 7 # 14  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status R

The meanings of the values could be more precise

SuggestedRemedy

Change 'Transmit rate limit mode disabled' to 'Transmit rate limit frame overhead mode disabled' and similarly, 18 times.

Proposed Response Response Status C

REJECT.

The meaning of the text is clear based on the enumerated value name. The draft is not improved by tautological definition.

Cl 30 SC 30.3.1.1.38 P 31 L 12 # 15  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status R

Unnecessary capitals: modes don't require capital letters.

SuggestedRemedy

Change 'Transmit Rate Limit Frame Overhead' to 'transmit rate limit frame overhead mode' and similarly, 12 times.

Proposed Response Response Status C

REJECT.

The editor followed the style used in similar "status" objects in the current standard.

Cl 30 SC 30.3.1.1.38 P 31 L 19 # 45  
 Daines, Kevin WWP

Comment Type E Comment Status A

The sentences that read ""This attribute maps..." do not end with the proper punctuation.

30.3.1.1.38 through 30.3.1.1.49

SuggestedRemedy

Fix by adding a period followed by a semi-colon at the end of each sentence.

"";""

Proposed Response Response Status C

ACCEPT.

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 30 SC 30.3.1.1.47 P 34 L 8 # 49  
 Daines, Kevin WWP  
 Comment Type T Comment Status A  
 The wrong variable is referenced.  
 SuggestedRemedy  
 Change ""rxlfsStretchRatio"" to ""rxFinelfsStretchRatio""  
 Proposed Response Response Status C  
 ACCEPT.

Cl 30A SC 30A.1.2 P 40 L 39 # 47  
 Daines, Kevin WWP  
 Comment Type E Comment Status A  
 The wrong attribute is referenced.  
 SuggestedRemedy  
 Change ""aRxlfsStretchRatio"" to ""aRxFinelfsStretchRatio""  
 Proposed Response Response Status C  
 ACCEPT.

Cl 30A SC 30A.1.1 P 37 L 6 # 16  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 Need more text here to mirror new NOTE 2.  
 SuggestedRemedy  
 per comment  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Add references to objects described in NOTE 2.

Cl 30B SC 30B.2 P 42 L 29 # 17  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 I believe the leading a's here should be deleted.  
 SuggestedRemedy  
 per comment. 6 times  
 Proposed Response Response Status C  
 ACCEPT.

Cl 30A SC 30A.1.2 P 40 L 37 # 46  
 Daines, Kevin WWP  
 Comment Type E Comment Status A  
 The wrong behavior is referenced.  
 SuggestedRemedy  
 Change ""bRxlfsStretchRatio"" to ""bRxFinelfsStretchRatio""  
 Proposed Response Response Status C  
 ACCEPT.

IEEE P802.3ar D1.2 Congestion Management Comments

Cl **4B** SC **4B** P **26** L **28** # **25**  
 Dawe, Piers Avago Technologies

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

Avoid 'will', it's ambiguous. Should say more about when 4 and/or 4A is applicable.  
 Editorial: placement of only.

*SuggestedRemedy*

A device that supports full duplex mode only may conform to Clause 4, "Media Access Control" or Annex 4A: "Simplified full duplex media access control." To operate in full duplex mode according to Clause 4, variable halfDuplex is set to false (4.2.7.5). There is no variable halfDuplex in Annex 4A. ... A device that supports half duplex mode conforms to Clause 4, "Media Access Control" To operate in half duplex mode, variable halfDuplex is set to true (4.2.7.5).

Proposed Response Response Status **C**

ACCEPT IN PRINCIPLE.

Replace

To operate in full duplex mode, variable halfDuplex will be false.

With

When operating in full duplex mode, variable halfDuplex is false.

Similarly for 4B.1.2

Cl **4B** SC **4B** P **26** L **40** # **26**  
 Dawe, Piers Avago Technologies

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

1000Mbps

*SuggestedRemedy*

1000 space Mb/s . Also in Table 4B-1 (twice).

Proposed Response Response Status **C**

ACCEPT.

Cl **4B** SC **4B** P **26** L **42** # **24**  
 Dawe, Piers Avago Technologies

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

Thank you for creating this annex and table. There are (at least) two more options to be added.

*SuggestedRemedy*

Please add options for rate (10 Mb/s, 100 Mb/s and so on. Please add option for the Clause 5 Layer Management (or at least the part of it that is not deprecated). If it's the case that witha 4A MAC, Clause 5 Layer Management is required, say so.

Proposed Response Response Status **C**

REJECT.

For sanity, Annex 4B deals strictly with options that are defined with Clause 4 or Annex 4A.

Cl **4B** SC **4B.2** P **26** L **46** # **27**  
 Dawe, Piers Avago Technologies

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

This says 'The MAC may truncate or discard frames that are longer than the supported frame length.' Yet 4.2.4.2.1 says 'The receiving CSMA/CD sublayer is ... is allowed to truncate frames longer than maxUntaggedFrameSize octets'. It's only fragments less than minFrameSize that may be discarded, per 4.2.4.2.2.

*SuggestedRemedy*

Either make this text agree with Clause 4: 'The MAC is allowed but not required to truncate frames that are longer than the supported frame length.' Or, change 4 and 4A to allow discarding if that is a consensus preference - the whole of 802.3 will get to see this in WG ballot and can express their views. Or raise a maintenance request.

Proposed Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change "discard" to "invalidate" to match the text added in 802.3as.

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 4B SC 4B.3.1 P 27 L 19 # 29  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 It's worth pointing out that WIS rate control is a special case of one of the other three mechanisms.  
 SuggestedRemedy  
 Add sentence: 'This may be achieved by payload data rate limiting with particular parameters.'  
 Proposed Response Response Status C  
 ACCEPT.

Cl 4B SC 4B.3.1 P 27 L 19 # 28  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status R  
 This project will enable WIS with a 4A MAC  
 SuggestedRemedy  
 Add the 4A reference.  
 Proposed Response Response Status C  
 REJECT.  
 This project only enables WIS support with 4A if the generic payload rate limiting is used. The reference for explicit WIS support only exists in 4.  
 The resolution of comment #29 covers the generic rate limiter support.

Cl 4B SC 4B.3.2 P 27 L 25 # 30  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 Rate limiting by frame overhead can be achieved with a Clause 4 MAC  
 SuggestedRemedy  
 Add the 4. reference.  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Add Clause 4 reference for 4B.3.2, 4B.3.3 & 4B.3.4

Cl 4B SC 4B.3.3 P 27 L 32 # 31  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 Payload data rate limiting can be achieved with a Clause 4 MAC  
 SuggestedRemedy  
 Add the 4. reference.  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 As per #30

Cl 4B SC 4B.3.4 P 27 L 38 # 32  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status A  
 Frame rate limiting can be achieved with a Clause 4 MAC  
 SuggestedRemedy  
 Add the 4. reference.  
 Proposed Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 As per #30.

Cl 4B SC 4B.3.4 P 27 L 38 # 33  
 Dawe, Piers Avago Technologies  
 Comment Type E Comment Status R  
 Confusing to misleading: 'The MAC may increase the interframe spacing to limit the maximum frame rate of the MAC sublayer'  
 SuggestedRemedy  
 Simplify: 'The MAC may limit the maximum frame rate of the MAC sublayer'. Consider doing similar in 4B.3.3: 'The MAC may adapt the nominal data rate of the MAC sublayer'.  
 Proposed Response Response Status C  
 REJECT.  
 It is important to state that the MAC is increasing the interframe spacing as this is the only mechanism by which it can reduce the maximum frame rate (or nominal data rate, etc.).

IEEE P802.3ar D1.2 Congestion Management Comments

Cl 4B SC 4B.3.4 P 27 L 40 # 34  
 Dawe, Piers Avago Technologies

Comment Type T Comment Status A

There's something else called MAC control (see Clause 31). The reader can't rely on perfectly implemented capitalisation to define a distinction.

SuggestedRemedy

Choose other words for this heading. I think these are physical layer driven throttling options. Also, change the name in Table 4B-1.

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

These options allow external sublayers to control some of the MAC operation.

Change heading title to

"Deference options"

Also in 4B-1

Cl 4B SC 4B.3.4 P 27 L 40 # 35  
 Dawe, Piers Avago Technologies

Comment Type T Comment Status R

I believe these two features are not available with a Clause 4 MAC. A 4A MAC can't be anything but full duplex.

SuggestedRemedy

A MAC compliant to Annex 4A may respond to the assertion of the carrierSense signal by deferring while in full duplex mode as defined in 4A.2.8. Such a MAC is always in full duplex mode. ... A MAC compliant to Annex 4A may rely on another sublayer to enforce the interframe spacing rules normally defined in the deference process by setting the variable deferenceMode to false as defined in 4A.2.7.5.

Proposed Response Response Status C

REJECT.

The text describes the options correctly and references only Clause 4A.

Cl 99 SC 99 P 2 L 25 # 36  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status A

Editor's note says 'If the historical listing is no longer included then the preceding sentence will be removed.' Yet it is clearly there in 802.3-2005, and therefore will remain as long as this front matter is in force. IMO the historical listing is useful and should remain, and we should make more use of it rather than having ambiguous text like 'Formerly,the Carrier Sense function described in Figure 7-8 generated the CARRIER\_STATUS message described above.'

SuggestedRemedy

Remove the editor's note, keep the historical listing.

Proposed Response Response Status C

ACCEPT.

Cl 99 SC 99 P 8 L 33 # 37  
 Dawe, Piers Avago Technologies

Comment Type E Comment Status A

NOTE says 'This amendment is based on IEEE Std 802.3-2005 as published... When TF review was initiated, this draft had minimal overlap with 802.3as.' Actually, this draft sometimes assumes 802.3as,and it is affected by it.

SuggestedRemedy

Assuming 802.3as has stabilised, base subsequent drafts on it.

Proposed Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

This amendment is based on IEEE Std 802.3-2005 as published

To:

This amendment is based on IEEE Std 802.3-2005 as published with proposed amendments by P802.3as

Remove the sentence regarding minimal overlap.