

# P802.3aj Draft 2.0 Comments

CR 0000 Cl 00 SC P I L # 4

Robert Grow Intel

Comment Type E Comment Status A

Just a reminder to roll the copyright dates to 2003 on next draft. Cover page and all page footers (in addition to more commonly edited draft date and draft expiration date.

SuggestedRemedy

See comment.

Response Response Status C

ACCEPT.

CR 1004 Cl 5 SC 2.4.1 P 1004-2 L 54 # 21

Pat Thaler Agilent Technologies

Comment Type TR Comment Status A

Page 1004-2 line 54: The footnote does not provide useful information - 30.3 doesn't give information on how to size counters unless you consider the increment rate to be such information. If that is what is meant, make the footnote state that 30.3 gives counter increment rates. Also, why does the note start "Example counter size" as there is no example?

SuggestedRemedy

Either make the footnote more informative or delete "See footnote" If See footnote is retained should probably be put in the brackets used for comments in text as it isn't currently proper pseudo-Pascal.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change the footnote to read 'The CounterLarge declaration is an example of how to declare a counter. This particular example produces a 32 bit counter.

The current footnote reference will also be formatted to be a comment.

CR 1064 Cl 40 SC 7.5 P 1064-1 L 20 # 12

Terry Cobb Avaya

Comment Type TR Comment Status A

Alien NEXT noise is specified in 40.7.6; 40.6.1.3.4 only gives a nominal value.

SuggestedRemedy

Change reference in 40.7.5 g) from "40.7.5.1" to "40.7.6".

Response Response Status C

ACCEPT.

CR 1064 Cl 40 SC 7.5 P 1064-1 L 20 # 22

Pat Thaler Agilent Technologies

Comment Type TR Comment Status A

I thought we had corrected this change at a maintenance meeting but the change didn't get in the balloted text. The reference should be to 40.7.6. Looking at drafts, the text in 40.7.6 was 40.7.5.1 and sometime near publication the number was changed so this would keep the reference the same as what was balloted. Alien NEXT is a type of external coupled noise.

SuggestedRemedy

Use 40.7.6 as the corrected reference.

Response Response Status C

ACCEPT.

CR 1068 Cl 13 SC 1 P 1068-1 L 44 # 18

Hugh Barrass Cisco Systems

Comment Type T Comment Status R

Is this really necessary? This change request covers repeaters on 10BASE- networks, 2 subjects which are long past the point of interest (not at all "what everyone wants to see"). The change will add a page and may force many standards watchers to read through the change section in order to verify that there is no material change. It is unlikely that anyone is intending to implement a new design using this Clause which would be helped by the new illustration.

SuggestedRemedy

The principle of Occam's razor suggests that this Clause should be left alone. Perhaps the proposer might consider withdrawing this request.

Response Response Status C

REJECT.

This Figure has been added in response to the continuing misunderstanding that there is a frequency repeater limit.

# P802.3aj Draft 2.0 Comments

CR 1078 CI 28 SC P 1078-1 L # 14  
Brad Booth Intel

Comment Type TR Comment Status A

I believe that the revision request 1078 is a feature addition, and not a maintenance request. The request does highlight an issue with the wording for the variable mr\_page\_rx and a missi value in Table 28-8. Instead of adding new features, I'd recommend we fix the error.

## SuggestedRemedy

Add a variable to 28.3.1 (matches the variable used in 40C.1):

mr\_np\_rx[16:1]

A 16-bit array that contains the advertised ability of the link partner's next page abilities Link Code Word.

For each element in the array:

Values: zero; data bit is logical zero.  
one; data bit is a logical one.

Change mp\_page\_rx in 28.3.1 to read:

Status indicating whether a New Page has been received. A New Page has been successfully received when acknowledge\_match=true and consistency\_match=true and the Link Code Word has been written to mr\_lp\_adv\_ability[16:1] or mr\_np\_rx[16:1], depending on whether the page received was a base or next page, respectively, and per the requirements c 28.2.4.1.7.

Add to Table 28-8 the following entry:

mr\_np\_rx[16:1] 8.15:0 Auto-Negotiation link partner's next page ability register

Response Response Status C

ACCEPT IN PRINCIPLE.

A recommendation will be added that 'all new implementation use Register 8'.

CR 1078 CI 28 SC 2.4.1.5 P L # 28  
Richard Cam PMC-Sierra

Comment Type TR Comment Status A

I'm still concerned about impact of proposed changes on existing implementations. More det on impact to existing implementations would help narrow selection among the alternatives discussed. The prudent course at this time is not to make any changes until the full impact is better understood.

## SuggestedRemedy

The solution of writing to both registers 5 and 8 may be preferable (but I agree this is not ideal either).

Response Response Status W

ACCEPT IN PRINCIPLE.

Your comment addresses the original change request which was a problem statement and do not address the solution developed and proposed. The proposed solution has been carefully designed to not impact existing hardware.

An update will be added to the Change request statements. No change is required to the proposed normative text.

CR 1078 CI 28 SC 2.4.1.5 P 1078-4 L 34 # 5  
Robert Grow Intel

Comment Type E Comment Status A

The word "determined" implies that bit 6.5 can control where next page is stored. As read on it is a status bit.

## SuggestedRemedy

Change "determined" to "specified" in lines 34 and 36.

Response Response Status C

ACCEPT.

# P802.3aj Draft 2.0 Comments

CR 1079 Cl 43 SC P 1079-1 L 1 # 24  
Shawn Rogers Texas Instruments

Comment Type T Comment Status R

I believe this is alright to only require locally administered addresses but have no expertise to understand what effect this might have on MAN or Wide Area implementations.

SuggestedRemedy

Response Response Status C  
REJECT.

It appears that you have misunderstood the change. IEEE 802.3 currently allows both locally and globally administered addresses, but clause 43 has a statement that implies that it only allows globally administered. This change removes the incorrect statement and does not change the allowed behavior. See clause 3.2.3 which allows both types of MAC address.

CR 1079 Cl 43 SC 2.10 P 1079-1 L # 26  
Antti Pietilainen Nokia

Comment Type TR Comment Status R

- 1) There are two places in the rationale where some words seem to be missing which makes difficult to understand the associated parts of the explanation.
- 2) This revision request seems to support configurable MAC addresses. This may be a major change and requires more thorough discussion of the consequences.

SuggestedRemedy

I welcome this request rewritten with more thorough discussion of the consequences for being able to make a decision.

Response Response Status C  
REJECT.

Yes, some words are missing in the rationale. Also, the text of the rationale is copied from an interpretation request so the tone is that of a question rather than a more definite statement. should say:

The statement in 43.2.10 that "each IEEE 802.3 MAC has an associated globally-unique individual address whether that MAC is used for Link Aggregation or not (see Clause 4 [Part 1])." is inaccurate. IEEE 802.3 does not require that the MAC address be globally-unique. 3.2. defines the MAC address space as including both globally unique and locally administered addresses. This change deletes "globally-unique" from the sentence to make it accurate.

"individual" should not have been deleted as each MAC must have an individual address. The strike out in the change goes too far and should be corrected.

The change has no impact on implementations since it is not changing the requirements for MAC addresses. Some implementations allow the MAC address to be configured, but IEEE 802.3 takes no position on that and this correction does not change that.

CR 1079 Cl 43 SC 2.10 P 1079-2 L 24 # 6  
Robert Grow Intel

Comment Type E Comment Status A

This is not the first instance of IEEE 802.3 and registration has been removed in the latest version of IEEE Std 802.3-2002.

SuggestedRemedy

Remove the registration mark on IEEE 802.3.

Response Response Status C  
ACCEPT.

CR 1080 Cl 00 SC P L # 101  
NoName

Comment Type E Comment Status A

Update 10BASE-T and 100BASE-T notes to include 11801-2002 Channel Class.

SuggestedRemedy

Change note to subclause 14.4.1 to read:

NOTE- ISO/IEC11801:2002 provides a specification for media that exceeds the minimum requirements of this standard.

Change note to subclause 25.4.6.1 to read:

NOTE-ISO/IEC11801:2002 provides a specification (Class D) for media that exceeds the minimum requirements of this standard.

Response Response Status C  
ACCEPT.

# P802.3aj Draft 2.0 Comments

CR 1080 CI 40 SC P 1084-4 L # 13

Terry Cobb Avaya

Comment Type TR Comment Status R

Page: 1084-4 to 1080-7

Clause: 40 and 40A

With the publication of ISO/IEC 11801:2002 the 1995 standard may not be available. The or current standard that includes the correct Category 5 specifications is ANSI/EIA/TIA-568-B.1 Annex D.

## SuggestedRemedy

In Clause 40 and 40A change all ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A 1995 references for Class D or Category 5 to ANSI/EIA/TIA-568-B.1 Annex D Category 5.

Response Response Status C

REJECT.

Add to the footnote that informs where ISO/IEC standards can be purchased 'Previous edition of ISO/IEC standards . . . '.

CR 1080 CI 40 SC P L # 32

Mike Bennett Berkeley National Lab

Comment Type E Comment Status R

Clause: 40, Annex 40A

Subclause:various

The use of Category 5/Class D is ambiguous in my opinion. ISO/IEC 11801:2002 Class D is equivalent to TIA/EIA Category 5e not Category 5 as this is no longer recognized by the TIA/EIA. The point is Clause 40 and Annex 40A still cause confusion by mixing references throughout the text.

In the Rationale For Revision the author states: "At this point we should not have to rely on th national reference and the references to TIA-568 should be able to be removed." Yet we're adding the reference to ANSI/TIA/EIA-568-B:2001 and still referencing ANSI/TIA/EIA-568-A:1995

I guess my point is it seems like we're not really accomplishing the goal, but since I couldn't come up with a better way to do it I approve with a comment.

## SuggestedRemedy

Remove the references to ANSI/TIA/EIA-568 completely and use ISO/IEC 11801 as was don in the note in Clause 14, subclause 4.1 (page 1080-2, line 47). This should be done through clause 40, and Annex 40A.

Also - a few text editing issues:

page 1080-4, line 23: replace Figure40-18 with Figure 40-18

page 1080-4, line 42: replace 1 00 , with 100 ,

page 1080-7, line 43: replace Fi gure40A-1 with Figure 40A-1

Response Response Status C

REJECT.

While it would be possible today to now delete all references to anything other than 11801, th references to TIA/EIA specifications are being retained in order to clearly capture the installer based originally designed to these specification.

See response to #29.

The editorial correction are ACCEPT.

# P802.3aj Draft 2.0 Comments

CR 1080 CI 40 SC P 1080-1 L # 29

Bruce Tolley

Cisco Systems

Comment Type TR Comment Status A

These changes are unacceptable for two reasons.

The document puts at risk the ability of 1000BASE-T to claim broad market potential. While TIA 568A might be obsolete as a specification document, almost all enterprise campus sites have TIA 568A technology installed and most have installed Category 5 cabling according to TIA-568A. As currently edited, the document bounces back and forth between references to TIA 568A and TIA 568B. It also bounces back and forth between references to ISO 11801:1995 and 11801:2002. The IEEE 802.3 document need to clearly support that 1000BASE-T operates on plants installed in the past according to TIA 568A or ISO 11801:1995 when such cabling plant also passes the additional parameters in TIA 568-B1 Annex D. Except for such statement about cabling installed

Second, violates the principle of being easy to understand and non-ambiguous because it makes references to both TIA 568A and 568B and to both ISO 11801:1995 and 11801:2002. More specifically, the document now introduces two very different definitions of Category 5 cabling one of which are contrary to the normal use of the term by users both in USA and outside USA where Category 5 is understood to be specified by TIA 568A. The document refers to Category 5 as defined in IAO/IEC 11801:1995 and Category 5 as defined in ISO 11801:2002.

## SuggestedRemedy

Changes to Clause 40 need to clearly explain in context which ISO 11801 document is being referred to when the term "Category 5" is used. Old Category 5 is old Class D defined by 11801:1995. New Category 5 is new Class D and called Category 5e in TIA 568A and 568B and defined in ISO 11801:2002.

Clause 40 and Annex 40A need to clearly state that Category 5 cabling plants installed according to EIA/TIA 568A and ISO 11801:1195 before the publication of the EIA/TIA 568B and ISO 11801: 2002 support 1000BASE-T when tested for the additional performance parameters specified in TIA-568-B1 Annex D.

For example change First paragraph of Annex 40A lines 27ff to:

Whether installing a new Category 5/Class D ISO 11801:2002 balanced cabling system or reusing a Category 5/Class D ISO 11801:1995 system that is already installed, it is highly recommended that the cabling systems be measured and certified before connecting 1000BASE-T equipment following the guidelines in ANSI/EIA/TIA 568-B1 Annex D.

Response Response Status W

ACCEPT IN PRINCIPLE.

1. Change the last two lines of 40.1 '1000BASE-T signaling requires four pairs of balanced cabling, as specified in ISO/IEC 11801:1995 (Class D) and ANSI/EIA/TIA-568-A-1995 (Category 5), and tested for the additional performance parameters specified in ANSI/EIA/TIA 568-B1 Annex D.'

2. Delete the text 'These requirements are met by a Class D channel as specified in ISO/IEC 11801:2002.'

3. Add a new note 'NOTE-ISO/IEC11801:2002 provides a specification (Class D) for media that exceeds the minimum requirements of this standard.'

4 Change text in first paragraph of Annex 40A to read '1000BASE-T is designed to operate on 4-pair unshielded twisted-pair cabling systems that meet the requirements described in ANSI/TIA/EIA-568-A-1995 (Category 5) and ISO/IEC 11801:1995 (Class D), and the addition ...'

CR 1080 CI 40 SC 1 P 1080-3 L 49 # 7

Robert Grow

Intel

Comment Type E Comment Status X

Isn't the current editorial policy to leave the year of a standard off unless necessary, to minimize the maintenance problems of new editions of standards?

## SuggestedRemedy

I think the relevant changes are:

p.2, l.48 -- Change to read "The current version of ISO/IEC11801 provides..."

p.3, l.49 -- Change to read "The current version of ISO/IEC11801provides..."

p.4, l.10 -- Remove ":2001" from ANSI/EIA/TIA-568-B

p.4, l.13 -- Remove ":2002"

Response Response Status Z

Withdrawn.

CR 1080 CI 40 SC 7.1 P 1080-4 L 42 # 15

Brad Booth

Intel

Comment Type E Comment Status A

100 ohms is not formatted correctly.

## SuggestedRemedy

Correct format.

Response Response Status C

ACCEPT.

CR 1080 CI 40 SC 7.3.1.1 P 1080-5 L 38 # 16

Brad Booth

Intel

Comment Type E Comment Status A

100-metre.

## SuggestedRemedy

Should be "100 m".

Response Response Status C

ACCEPT.

# P802.3aj Draft 2.0 Comments

CR 1080 CI 40A SC 2 P 1080-7 L 43 # 8

Robert Grow

Intel

Comment Type E Comment Status A

New typo introduced (that isn't in the base document) -- misplaced space

SuggestedRemedy

Change "Figure 40A-1" to "Figure 40A-1".

Response

Response Status C

ACCEPT.

CR 1085 CI 36 SC P 1085-3 L 52 # 27

Dan Dove

HP ProCurve Networks

Comment Type E Comment Status A

Grammo. Change "SUDI that cause the.." to "SUDI that caused the.."

SuggestedRemedy

See comment.

Response

Response Status C

ACCEPT.

CR 1085 CI 36 SC 2.5.2.2 P 1085-3 L 52 # 23

Pat Thaler

Agilent Technologies

Comment Type E Comment Status A

The grammar of the note seems to be a bit off.

SuggestedRemedy

"against the code group obtained from the SUDI that caused the transition"

because "contained from" isn't standard English and "cause" needs to be either causes or caused to fit the grammar. Past tense seemed better since the transition happens before the test.

Response

Response Status C

ACCEPT.

CR 1090 CI 35 SC P 1090-1 L # 17

Brad Booth

Intel

Comment Type T Comment Status R

The revision requests asks for a change to the text for RX\_CLK. I think that this change may require the removal of tPERIOD for RX\_CLK from Table 35-8.

SuggestedRemedy

Remove tPERIOD for RX\_CLK from Table 35-8.

Response

Response Status C

REJECT.

This value only specifies a minimum and this minimum is still in force.

CR 1090 CI 35 SC 2.2.2 P 1090-3 L 40 # 19

Piers Dawe

Agilent

Comment Type T Comment Status A

The sentence "Transitions from nominal clock to recovered clock or from recovered clock to nominal clock shall not decrease the time between adjacent edges of RX\_CLK." seems ambiguous or unnecessarily strict, demanding that the phase adjustment process must always proceed by slowing the clock momentarily, whereas PLL implementations could pull the clock faster, but by very moderate amounts. We discussed a similar issue in 802.3ae. For example 51.7.2 XSB1 PMA\_RX\_CLK Specification: "During the transitions, the PMA\_RX\_CLK pulse width shall not be less than the minimum that is calculated by the period times the duty cycle defined in Table 51-10 and Table 51-12."

SuggestedRemedy

Should you say "Transitions from nominal clock to recovered clock or from recovered clock to nominal clock shall not decrease the period, or time between adjacent edges, of RX\_CLK below the limits specified in Table 35-8."?

Response

Response Status C

ACCEPT.

# P802.3aj Draft 2.0 Comments

CR 1090 CI 35 SC 2.2.2 P 1090-3 L 41 # 9  
Robert Grow Intel

Comment Type TR Comment Status A

The changes eliminate the maximum time a clock can be stretched (line 48).  
When a PHY chip switches from recovered to nominal clock source for RX\_CLK it can have a effect on MAC operation if clock edges do not continue for extended periods. It is possible that a design per the current GMII text could fail if clock transitions do not resume within the maximum two clock periods previously specified.

## SuggestedRemedy

Add to the end of the sentence on line 40:  
", and shall not increase the time between adjacent edges of RX\_CLK more than twice the nominal clock period."

Change PICS SF4 Value/Comment (p.4, l.16) to read:  
"No decrease of period between adjacent edges of RX\_CLK."

Change PICS SF5 Value/Comment (p.4, l.20) to read:  
No increase greater than two nominal clock periods between adjacent edges of RX\_CLK."

Restore original numbering of following PICS items.

Response Response Status C  
ACCEPT.

CR 1090 CI 35 SC 2.2.3 P 1090-4 L 17 # 10  
Robert Grow Intel

Comment Type E Comment Status A

The proposed edit references clock period, but the normative text references adjacent edges the clock.

## SuggestedRemedy

Change PICS SF4 Value/Comment (p.4, l.16) to read (a subset of recommended change on TR comment about maximum increase):  
"No decrease of period between adjacent edges of RX\_CLK."

Response Response Status C  
ACCEPT.

CR 1091 CI 00 SC P 802.3ae L # 30  
Koichiro Seto Hitachi Cable

Comment Type T Comment Status A

We should review 802.3ae for the necessary change. As far as I scanned, there are several 'error rate' phrases in 802.3ae.

## SuggestedRemedy

We should review 802.3ae for the necessary change.

Response Response Status C  
ACCEPT.

The are a number of instances in Clause 50 and the associated Clause 30 MIB attributes.

CR 1091 CI 00 SC P 1091-1 L 26 # 20  
Piers Dawe Agilent

Comment Type T Comment Status A

A few of these actually could be rates. Some should be left alone in clauses no longer maintained.

## SuggestedRemedy

The first instance of "error rates" in 12.5.3.2.6 should not be changed because bullets b and c are rates, not ratios.

27.1.2.1 No need to change this one.

38.6.8 Bit Error Rate Test: usage varies and it doesn't matter here. As 38.6.8 copied FC-I which used 'rate', it isn't worth breaking into clause 38 for this alone.

41.1.2.1 No need to change this one.

Decide if you are putting the policy of request 1098 into operation; if so, need not change 8, 12, 23 & 32 anyway.

Response Response Status C  
ACCEPT IN PRINCIPLE.

Since the policy isn't yet in place for the deprecated Clauses the proposed changes for these will stand.

# P802.3aj Draft 2.0 Comments

CR 1095 Cl 3 SC 2.6 P 1095-1 L # 31  
Koichiro Seto Hitachi Cable

Comment Type **TR** Comment Status **R**

We should not adopt changes based on other draft.

*SuggestedRemedy*

We should reconsider the change request after 802a is finalized and approved.

*Response* Response Status **C**

REJECT.

IEEE P802a is currently in Sponsor ballot and should be approved prior to IEEE P802.3aj starting Sponsor ballot. If there is a delay with IEEE P802a we will remove this change during the IEEE P802.3aj Sponsor ballot.

In addition this change was submitted in response to a comment submitted against IEEE P802a by an IEEE P802.3 voter.

We do feel it is appropriate for one IEEE P802 draft to reference another draft that has Sponsor ballot and this has been done in the past.

CR 1095 Cl 3 SC 2.6 P 1095-1 L 16 # 11  
Robert Grow Intel

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

The proposed text should be added as a note. In checking for normative references, an overlooked obsolete reference was also noticed (yes this is stretching the scope of the change request).

*SuggestedRemedy*

Add to end of 3.2.6:  
"NOTE -- Clause 12 of IEEE P 802a (an amendment to IEEE Std 802) defines a set of Type values and associated mechanisms for use in prototype and vendor-specific protocol development."

Add normative reference to 1.3 (should be updated by IEEE editor before publication of 802.3aj):  
"IEEE P 802a(TM)/D2 (May 28, 2000), Draft Standard for Local and Metropolitan Area Networks--Overview and Architecture--Amendment 1: Ethertypes for prototype and vendor-specific protocol development.6"

Errata noticed while generating comment.  
Missed updating normative reference in 802.3-2002:  
"IEEE Std 802.1Q-1998, IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridged Local Area Networks."  
Typo in footnote 7 on page 9 of 802.3-2002  
"IEFT" should be "IETF"

*Response* Response Status **C**

ACCEPT.

CR 1097 Cl 47 SC 3.3.4 P 1097 L # 25  
Shawn Rogers Texas Instruments

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

Agree with Dhiraj. I must have reviewed this 100 times and did not see this.

*SuggestedRemedy*

*Response* Response Status **C**

ACCEPT.



CR 1097      CI 47      SC 47.6.4.2      P 802.3ae:307      L 47      # 2

Tim Warland      Quake Technologies

Comment Type    E      Comment Status    A

    Need to update the PIC element E4

SuggestedRemedy

    Delete equation from PIC, add reference to equation 47-1

Response      Response Status    C

    ACCEPT.