

IEEE P802.3ap Comments

6/6/2005

CI 00 SC global P1 L1 # 93
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A signal_detect

Add provisions for digital qualification of signal presence as proposed in my presentation.

Suggested Remedy

Response Response Status C

ACCEPT.

Motion #1

Technical (75%)

Description - Move to adopt Thaler_01_0505 as the basis for resolution of comment 93. (C bits will not be moved, Analog Signal Detect will be optional).

Moved - Pat Thaler
Second - Ilango Ganga

Yes - 32, No - 0, Abstain - 7

Motion Passes

CI 99 SC Title page P1 L51 # 72
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

The editor may have found an unclear topic in the style guide. P802.3am/D2.2 has '3 Park Avenue', this draft has 'Three Park Avenue'

Suggested Remedy

Consider using Arabic numerals when the number concerned is an index number as opposed to a quantity. Get style guide 14.1c revised if appropriate.

Response Response Status C

ACCEPT.

CI 01 SC 1.4 P11 L24 # 73
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Use space between number and unit, unless unit is '%'.

Suggested Remedy

Per comment. Three times on this page, others e.g. in 69.2.3.

Response Response Status C

ACCEPT.

CI 28A SC 28A P13 L41 # 81
Dawe, Piers Agilent Editor 4

Comment Type T Comment Status A

Contradiction between 00001 IEEE Std 802.3 and 00101 IEEE Std 802.3ap: P802.3ap if approved would be part of 802.3, but these selector field mappings are mutually exclusive.

Suggested Remedy

Reconcile

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: Rename the original code 00001 to "IEEE Std 802.3 Clause 28" and the new code "IEEE Std 802.3 Clause 73"

CI 30B SC 30B.2 P20 L8 # 80
Dawe, Piers Agilent Editor 4

Comment Type T Comment Status A

Clash of index numbers: P802.3aq/D2.0 has 10GBASE-LRM (494), this draft has 10GBASE-KR (494). For information, P802.3an/D2.0 has 10GBASE-T (55), so no clash there.

Suggested Remedy

Coordinate with P802.3aq. I suggest change to 10GBASE-KR (495). Also, it is helpful to keep the list in 30B.2 in exactly the same order as the one in 30.5.1.1.2 - so move the entry for 10GBASE-KR to follow 10GBASE-ER to be in part-alphabetical (rather than numerical) order.

Response Response Status C

ACCEPT.

CI 45 SC 45.2 P22 L23 # 82
Dawe, Piers Agilent Editor 3

Comment Type T Comment Status R

To avoid confusion with the other Auto-negotiation

Suggested Remedy

Call this one 'Auto-negotiation for backplane Ethernet' (and make the table wider). May have to make a similar name change in other places.

Response Response Status C

REJECT.

MMD 7 is used by 10GBASE-T Auto-Negotiation (Clause 28) and by Backplane Ethernet for Clause 73 Auto-Negotiation. Re-naming is therefore inappropriate.

CI 45 SC 2 P23 L 20 # 47
 Szczepanek, Andre Texas Instruments Editor 4

Comment Type E Comment Status A

""autonegotiation present present in package""

""autonegotiation not present present in package""

Suggested Remedy

""autonegotiation present in package""

""autonegotiation not present in package""

Response Response Status C

ACCEPT.

CI 45 SC 2 P23 L 21 # 15
 Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

The contains ""present present"" back to back.

Suggested Remedy

Remove redundant present.

Response Response Status C

ACCEPT.

CI 45 SC 45.2 P23 L 21 # 141
 Ganga, Ilango Intel Editor 4

Comment Type E Comment Status A

duplicate word ""present"" in description for ""Auto-Negotiation present""

Suggested Remedy

delete duplicate word ""present"" from lines 20 and 21.

Response Response Status C

ACCEPT.

CI 45 SC P26 L # 56
 Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Table numbers seem wrong, table 45-6 comes after 45-8 and what does 45-10an mean on page 29.

Suggested Remedy

Review table numbering in Clause 45 and correct.

Response Response Status C

ACCEPT IN PRINCIPLE.

This document is an amendment to IEEE P802.3REVam. Some tables reflect amendments to existing registers while other describe additions to the register set. Check for consistency.

Page 22: Renumber Table 45-8 to Table 45-1

Page 23: Renumber Table 45-8 to Table 45-2

Page 24: Renumber Table 45-8 to Table 45-3

Page 26: Renumber Table 45-8 to Table 45-5

Page 27: Renumber Table 45-8 to Table 45-7

Page 28: Renumber Table 45-12 to Table 45-11

Add the following editorial instruction to 45.2.1.62

“Renumber tables in 45.2.1.62 through 45.2.1.66 to flow sequentially based on 802.3REVam and any amendments to it.”

Rename Tables 45-10an to 45-10au to Tables 45-53 onward

Add the following editorial instruction to 45.2.7.

“Insert the following Auto-negotiation information as 45.2.7 and shift other subclauses. Renumber tables to flow sequentially based on 802.3REVam and any amendments to it.”

CI 45 SC 45.2.1.2 P26 L 14 # 74
 Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Gratuitous capitals

Suggested Remedy

Change 'Registers' to lower case, three times in this table. There are other examples of this and other words (e.g. 'Port Type Negotiated') in this draft.

Response Response Status C

ACCEPT.

CI 45 SC 45.2.1.2.2 P26 L 30 # 76
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Clause 45 doesn't use 'logic one'.

Suggested Remedy

Delete 'logic', several times.

Response Response Status C
ACCEPT.

CI 45 SC Table 45-6 P26 L 44 # 57
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

First item in table should be 1.4.15:4

Suggested Remedy

First item in table should be 1.4.15:4

Response Response Status C
ACCEPT.

EDITOR: it was correct

CI 45 SC P28 L 31 # 58
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

First item in table should be 1.11.15:5

Suggested Remedy

First item in table should be 1.11.15:5

Response Response Status C
ACCEPT.

CI 45 SC 45.2.1.62 P29 L 11 # 142
Ganga, Ilango Intel Editor 4

Comment Type E Comment Status A

Table 45-10an: formatting of bit numbers: All register bits in Clause 45 registers are represented as MMD.RegNum.BitNum. Example 1.150.0 etc., Modify Column appropriately to be consistent with other registers in clause 45.

Suggested Remedy

Modify Column 1 of table 45-10an as follows; 1.150.0, 1.150.1 and 1.150.2:15

Response Response Status C
ACCEPT.

CI 45 SC 45.2.1.63 P30 L 11 # 143
Ganga, Ilango Intel Editor 4

Comment Type E Comment Status A

Table 45-10ao: formatting of bit numbers: All register bits in Clause 45 registers are represented as MMD.RegNum.BitNum. Example 1.151.0 etc., Modify Column 1 appropriately to be consistent with other registers in clause 45.

Suggested Remedy

Modify/Reformat column 1 Bit(s) as follows: 1.151.0, 1.151.1, 1.151.2 and so on...

Response Response Status C
ACCEPT.

CI 45 SC 2.1.63 P30 L 18 # 41
Gaither, Justin Xilinx Editor 4

Comment Type TR Comment Status A

KR Registers

To my knowledge we have not voted in a requirement to identify coefficient step size of any kind, let alone an advertisement of step size.

Suggested Remedy

Remove definition of 10:8

Response Response Status C
ACCEPT.

CI 45 SC 2 P30 L 35 # 12
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

Definition of ""Loss of signal"" is swapped for value of 0 and 1.

Suggested Remedy

Change bit description to read:

1 = Electrical signal not present at the receiver

0 = Electrical signal present at the receiver

Response Response Status C
ACCEPT IN PRINCIPLE.

Overtaken by Comment #92
Renamed the bit "Reserved"

CI 45 SC 45.2.1.63.1 P30 L 42 # 92
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

No signal detect or loss of signal function has been agreed to.

Suggested Remedy

Delete this bit.

Response Response Status C

ACCEPT IN PRINCIPLE.

Implication is that presence of 10GBASE-KR training symbols would only be qualified by training frame lock.

Remove loss_of_signal definition from 72.5.10.4.1 and remove loss_of_signal qualification from entry criteria to top state in Figure 72-3.

Remove the bit. (done, renamed the bit "Reserved")

CI 45 SC 45.2.1.64.2 P32 L 6 # 144
Ganga, Ilango Intel Editor 4

Comment Type E Comment Status A

Table 45-10a: formatting of bit numbers: All register bits in Clause 45 registers are represented as MMD.RegNum.BitNum. Example 1.152.0 etc.,
Local and remote coefficient registers are combined in one table:
Provide separate tables for local and remote registers and Modify Column 1 appropriately to be consistent with other registers in clause 45.

Suggested Remedy

Provide separate tables for local and remote coefficient registers and Modify Column 1 appropriately to be consistent with other registers in clause 45:
1.152.1:0, 1.152.3:2 etc., and 1.154.1:0, 1.154.3:2 etc.,

Response Response Status C

ACCEPT.

Split the text into local and remote

CI 45 SC 2 P32 L 37 # 16
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

sentence ""The local coefficient update register represents the contents of the current outgoing training frame, as training state machine defined in Figure 72-4."" is unclear.

Suggested Remedy

Possible remedy:

The local coefficient update register represents the contents of the current outgoing training frame, as per the training state machine defined in Figure 72-4.

Response Response Status C

ACCEPT.

CI 45 SC 45.2.1.65 P32 L 44 # 140
Ganga, Ilango Intel Editor 4

Comment Type T Comment Status A KR Registers

Table 45-10a: formatting of bit numbers: All register bits in Clause 45 registers are represented as MMD.RegNum.BitNum. Example 1.153.0 etc.,
Local and remote status report registers are combined in one table:
Provide separate tables for local and remote registers and Modify Column 1 appropriately to be consistent with other registers in clause 45.

Suggested Remedy

Provide separate tables for local and remote status report registers and Modify Column 1 appropriately to be consistent with other registers in clause 45:
Register 1.153: Bit(s) 1.153.14:0, 1.153.15 and
Register 1.155: Bits(s) 1.155.14:0, 1.155.15

Response Response Status C

ACCEPT.

Provide separate tables.

CI 45 SC 45.2.1.65.1 P33 L 5 # 145
 Ganga, Ilango Intel Editor 4

Comment Type E Comment Status A

Formatting of column 1 Register Bit(s) for tables 45-10ar, 45-10as, 45-10at, 45-10au to be for example 1.156.7:0, 1.156.15:0 and so on... to be consistent with other registers tables in clause 45.

Suggested Remedy

Reformat column 1 Register Bit(s) for tables 45-10ar, 45-10as, 45-10at, 45-10au to be as follows (provide register address for each table):
 Table 45-10ar Register 1.156: 1.156.7:0, 1.156.15:0 and
 Table 45-10as Register 1.157: 1.157.7:0, 1.157.15:0 and
 so on....

Response Response Status C
 ACCEPT.

CI 45 SC 2 P33 L 21 # 17
 Spagna, Fulvio INTEL Editor 3

Comment Type T Comment Status A KR Registers

Why is it necessary to identify coefficient k=0 as the main or gain tap? Isn't that unnecessarily restrictive?

Suggested Remedy

Change taps numbering from 0 to 6.

Response Response Status Z
 WITHDRAWN

CI 45 SC 2.1.66.1 P33 L 26 # 50
 Szczepanek, Andre Texas Instruments Editor 4

Comment Type T Comment Status A KR Registers

""Attempts to write values with resolution higher than that supported by a given implementation shall return the closest supported value.""
 Given that the resolution of K values is now reported in term of the number of MS non-sign bits, would it not be better to truncate (ignore) unsupported LSB bits.
 Otherwise as it stands, an implementation would be required to round-up the MSBs based on the value written to the unimplemented bits.

Suggested Remedy

""Attempts to write values with resolution higher than that supported by a given implementation shall be truncated to the implemented resolution of the register.""

Response Response Status C
 ACCEPT IN PRINCIPLE.

Delete these registers. This feature, if desired, will use vendor specific ones.

CI 45 SC 45.2.7 P34 L 23 # 146
 Ganga, Ilango Intel Editor 3

Comment Type T Comment Status R

Currently AN MMD registers are defined in both 802.3an and 802.3ap. Right now 802.3ap has to keep track of changes every time 802.3an updates the draft. To avoid this, provide only revisions/changes to draft 802.3an-D2.0 in .3ap and do not repeat the same description provided by 802.3an.

Suggested Remedy

For AN MMD Provide editing instructions to 802.3an-Dx.x instead of 802.3REVam-D2.1. It is not necessary to repeat the same description already specified in 802.3an-Dx.x.

Response Response Status C
 REJECT.

We will synchronize at a later ballot stage.

CI 45 SC 45.2.7 P35 L 8 # 149
 Ganga, Ilango Intel Editor 4

Comment Type TR Comment Status A

Currently there is an overlap in address space between 802.3ap registers and 802.3an registers defined in the AN MMD 7. Remove the conflict by moving the registers as suggested by Brad Booth in his email dated 5/9/05:

Suggested Remedy

From: Booth, Bradley

Subject: RE: Overlapping address of Auto-Neg MMD

I think this can be fixed with some changes to BP's use of the registers. The .3ap use of the registers for AN advertisement, AN LP base page, AN extended next page and AN LP extended next page should be able to overlap with .3an's registers. To show you what I mean:

Registers	.3an	.3ap
7:16	AN LD advertisement	AN LD advertisement (1 of 3 bytes)
7:17-18	Reserved	AN LD advertisement (2 of 3 bytes)
7:19	AN LP base page	AN LP base page (1 of 3 bytes)
7:20-21	Reserved	AN LP base page (2 of 3 bytes)
7:22-24	AN LD extended NP	AN LD extended NP
7:25-27	AN LP extended NP	AN LP extended NP

The rest of BP registers would be able to start at 7:48 and work upward.

Cheers, Brad

Response Response Status C
 ACCEPT.

CI 45 SC 45.7 P35 L 21 # 133
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

Registers 29 through 34 overlap with space used or reserved by P802.3an (refer to draft 2.0).

Suggested Remedy

Re-arrange registers to eliminate conflicts.

Response Response Status C

ACCEPT.

See Comment #149

CI 45 SC 45.2.7.1 P36 L 1 # 150
Ganga, Ilango Intel Editor 4

Comment Type TR Comment Status A

Auto-Neg MMD Reset is defined by 802.3an-D2.0. Since this MMD is common to both .3an and .3ap, add Auto-Neg MMD Reset to be consistent with 802.3an.

Suggested Remedy

Define AN Reset (Bit 7.0.15) as specified in Draft 802.3an-D2.0 page 105 with the corresponding description in 45.2.7.1.1 Reset (7.0.15)

Response Response Status C

ACCEPT.

CI 45 SC 45.2.7.1 P36 L 3 # 59
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

The use of the word 'should' is deprecated.

Suggested Remedy

Copy the text for this subclause from the 802.3an draft spec.

Response Response Status C

ACCEPT.

Text from 802.3an will be duplicated and amended according to the requirements for IEEE P802.3ap.

CI 45 SC 45.2.7.1.1 P36 L 37 # 83
Dawe, Piers Agilent Editor 3

Comment Type T Comment Status R

Asking the user to always write bit 7.0.12 as zero seems silly if the attempt will be ignored. Editorial 'the'.

Suggested Remedy

Check if EFM came up with a more useful form of words. If not, suggest 'If a PMA/PMD reports via bit 7.1.3 in the backplane Ethernet status register that it lacks the ability to perform backplane Ethernet auto-negotiation, the PMA/PMD shall return a value of zero in bit 7.0.12, and any attempt to write a one to this bit shall be ignored.' Similarly in 45.2.7.1.2.

Response Response Status C

REJECT.

Consistent with usual practice.

CI 45 SC 45.2.7.1.2 P36 L 49 # 84
Dawe, Piers Agilent Editor 4

Comment Type T Comment Status A

'Otherwise, the auto-negotiation process shall be restarted by setting bit 7.0.9 to a logic one.' Whenever auto-negotiation is enabled? It will be constantly restarting and never usable.

Suggested Remedy

Rewrite.

Response Response Status C

ACCEPT IN PRINCIPLE.

'Otherwise, the auto-negotiation process shall be restarted when bit 7.0.9 is set to a logic one.'

CI 45 SC 2.7.3.2 P38 L 34 # 48
Szczepanek, Andre Texas Instruments Editor 4

Comment Type E Comment Status A

Typo: ""one the three bits""

Suggested Remedy

""one of the three bits""

Response Response Status C

ACCEPT.

CI 45 SC 45.2.7.4 P39 L 4 # 147
Ganga, Ilango Intel Editor 4

Comment Type T Comment Status A

AN expansion register (7.30) 802.3an-D2.0 has defined some the bits like Page Received etc., in AN status register whereas .3ap has defined this bit in AN expansion register. There are still reserved bits in AN status register, so combine the bits into a single common register for .3an and .3ap (AN status Register)

Suggested Remedy

Merge AN expansion register bits into the AN status register to be consistent with 802.3an. Re-use reserved bits in AN status register (7.1) and eliminate the need for having separate expansion register for 802.3ap.

Response Response Status C
ACCEPT.

CI 45 SC 45.2.7.4.3 P39 L 40 # 75
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Able: other ability bits and registers are called 'ability'.

Suggested Remedy

Change to 'ability'.

Response Response Status C
ACCEPT.

CI 45 SC 2 P40 L 40 # 6
Spagna, Fulvio INTEL Editor 4

Comment Type T Comment Status A

What is the subject of the sentence: ""For writeable registers, indicate that the value is only used by the state machine when the first register is written.""

Suggested Remedy

Not sure, I do not understand what was the original intent.

Response Response Status C
ACCEPT IN PRINCIPLE.

""For writeable registers, the value is only used by the state machine when the first register is written.""

CI 45 SC P40 L 41 # 7
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

Missing article.

Suggested Remedy

Change ""For next"" to ""For the next""

Response Response Status C
ACCEPT.

CI 45 SC 2 P40 L 46 # 8
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

In the sentence ""This register contains the Advertised Ability of the PHY. (See Table 73-3). The bit definition for the basepage is defined in 73.6."" which register is being referenced?

Suggested Remedy

Specify register reference.

Response Response Status C
ACCEPT.

CI 45 SC 2 P40 L 51 # 9
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

Replace: ""based on the appropriate backplane Ethernet""

Suggested Remedy

With: ""according to the appropriate backplane Ethernet""

Response Response Status C
ACCEPT.

CI 45 SC 45.2.7.4.9 P41 L 53 # 77
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Style of '2001H'. If it means that 2001 is in hex, then this isn't a supported notation. Clause 45 doesn't use the '0x' notation. Which leaves a choice of...

Suggested Remedy

Change to 2001/subscript/16/end subscript/ or '2001 (hexadecimal)'.

Response Response Status C
ACCEPT.

CI 45 SC 45.2.7.4.10 P42 L 32 # 85
Dawe, Piers Agilent Editor 4

Comment Type T Comment Status A

'only guaranteed to be valid'? What could be stronger than 'guaranteed'!?

Suggested Remedy

At least change the order of words to 'are guaranteed to be valid only after'. Try to find a word with less commitment than 'guaranteed', e.g. 'advertised as'.

Response Response Status C

ACCEPT IN PRINCIPLE.

Rewrite to read: 'are valid only after'

CI 45 SC 45.5 P43 L 3 # 128
Healey, Adam Agere Systems Editor 1

Comment Type T Comment Status A

PICS Proforma must be updated to reflect changes made to this clause.

Suggested Remedy

Solicit a volunteer to parse the clause 45 changes and update section 45.5 accordingly.

Response Response Status C

ACCEPT IN PRINCIPLE.

Bob Noseworthy (UNH-IOL) has volunteered for this Task. Tables will be generated and submitted to the editor for inclusion into the next draft.

CI 69 SC P45 L # 99
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type E Comment Status R

Definitions are being added to Section 1.4, but no reference in Clause 69 to Section 1.4 has been added.

Suggested Remedy

Add subclause for ""Definitions""

Response Response Status C

REJECT.

No similar action was taken for clause 34 and 44 (Introductory clauses for 1000Mb/s and 10Gb/s). This is an introductory clause and all relevant terms are defined in their respective subsections. For instance, all of the signaling systems are clearly defined in 69.2.3.

CI 69 SC P45 L 1 # 98
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type E Comment Status R

Title should be modified.

Suggested Remedy

Use ""Introduction to Ethernet Operation over Electrical Backplanes, Types 1000BASE-KX, 10GBASE-KX4, 10GBASE-KR""

Response Response Status C

REJECT.

Clause 69 is analogous to:

Clause 34 Introduction to 1000Mb/s baseband networks

Clause 44 Introduction to 10Gb/s baseband networks

Note that the clause name does not enumerate the port type falling under each umbrella as more port types may be added (or conceivably subtracted) in the future. To remain consistent with earlier practice, port types will not be enumerated in the title of Clause 69.

CI 69 SC 69.1 P45 L 12 # 86
Dawe, Piers Agilent Editor 4

Comment Type T Comment Status A

Is a backplane Ethernet that can operate at just one speed not allowed?

Suggested Remedy

Change 'Backplane Ethernet supports the IEEE 802.3 MAC operating at 1000 Mb/s and 10 Gb/s.' to 'Backplane Ethernet supports the IEEE 802.3 MAC operating at 1000 Mb/s and/or 10 Gb/s.'

Response Response Status C

ACCEPT.

CI 69 SC 69.1.2 P45 L 34 # 60
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Change f) to e) and remove original e)

Change iii) a 10Gb/s PHY to iii) a single-lane 10Gb/s PHY

Suggested Remedy

Change f) to e) and remove original e)

Change iii) a 10Gb/s PHY to iii) a single-lane 10Gb/s PHY

Response Response Status C

ACCEPT.

CI 69 SC 69.2.3 P47 L 23 # 69
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

To what extent is 10GBASE-KX4 compatible with or similar to 10GBASE-CX4 and XAUI?

Suggested Remedy

Whatever the situation is, add a sentence or two to tell the reader.

Response Response Status C

ACCEPT IN PRINCIPLE.

Changed sentence to: "This embodiment is based on XAUI with 10GBASE-CX4 extensions and specifies 10Gb/s operation over four differential paths in each direction for a total of eight pairs, or sixteen connections."

CI 00 SC 34.1.2 P47 L 23 # 70
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

We'll have to see what changes e.g. 10GBASE-KR trigger in e.g. clause 44. For example, 44.1.4.4 contains this sentence: 'The 10GBASE-R family of physical layer implementations is composed of 10GBASE-SR, 10GBASE-LR, and 10GBASE-ER.' Similarly in 34.1.2.

Suggested Remedy

Two options: make a minimal change to each of 28, 34, 44, with just enough to tell the reader that these clauses don't contain the whole truth any more and refer him to the new clauses; or, make the more detailed changes as 802.3aq and 802.3an are doing. Want to have a strategy agreed among 802.3 before working group ballot.

Response Response Status C

ACCEPT IN PRINCIPLE.

These details are spelled out in clause 69.

Add a pointer in clause 44 that indicated that clause 69 is the point of reference for operation over electrical backplanes at 10Gb/s.

Similarly, add a pointer to clause 34 that indicates clause 69 is the point of reference for operation over electrical backplanes at 1Gb/s.

CI 69 SC 69.2.3 P47 L 28 # 71
Dawe, Piers Agilent Editor 3

Comment Type E Comment Status R

To what extent is 10GBASE-KR compatible with or similar to XFI or CEI?

Suggested Remedy

Whatever the situation is, add a sentence or two to tell the reader. Add informative references to the bibliography.

Response Response Status C

REJECT.

XFI and OIF CEI are implementation/multi-source agreements and not international standards. Clause 72 does not reference technical content from either document and therefore there is no obvious need to include them in the list of references.

Therefore, inclusion of text explaining the relationship between clause 72 and these documents does not appear to be necessary. It is expected that anyone skilled in the art will be able to select the proper specification for their implementation.

CI 69 SC 2 P48 L 3 # 10
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

Spelling error: implimented

Suggested Remedy

Change to : implemented.

Response Response Status C

ACCEPT.

CI 69 SC 69.2.4 P48 L 3 # 61
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Change ""The Auto-negotiation is optional to use and parallel detect shall be provided for legacy connect."" to ""The use of Auto-negotiation is optional and parallel detect shall be provided for legacy devices that do not support auto-negotiation.""
Also capitalize the 'a' at start of line 6.

Suggested Remedy

Change ""The Auto-negotiation is optional to use and parallel detect shall be provided for legacy connect."" to ""The use of Auto-negotiation is optional and parallel detect shall be provided for legacy devices that do not support auto-negotiation.""
Also capitalize the 'a' at start of line 6.

Response Response Status C

ACCEPT.

CI 69 SC 69.2.4 P48 L 6 # 18
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A
Capitol A on ""Auto-negotiation ...""

Suggested Remedy

Response Response Status C
ACCEPT.

CI 69 SC 2 P48 L 8 # 11
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A
Capitalize first word in sentence.

Suggested Remedy

Change auto-negotiation to Auto-negotiation.

Response Response Status C
ACCEPT.
Same as #18

CI 69 SC 69.2.4 P48 L 17 # 19
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A
""difined in 73."" should be ""difined in Clause 73.""

Suggested Remedy

Response Response Status C
ACCEPT.
"defined in Clause 73."

CI 69 SC 69.3 P48 L 26 # 134
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A channel
Interconnect specifications do not include limits for crosstalk.

Suggested Remedy

Include section (69.3.4?) defining limits for crosstalk. Suggest using limits described in healey_c1_0505 as a starting point.

Response Response Status C
ACCEPT IN PRINCIPLE.

Comment addressed by Motion #5.

Description: Move that channel characterization be defined using:

Attenuation limits as in Draft 0.9

Deviation Limits as in Draft 0.9

Crosstalk methodology as in D'Ambrosia_01_0505

- Single Aggressor

- ACR

Motion Type: Technical 75 % required

Moved By: Tom Palkert

Seconded By Fulvio Spagna

Results: All Yes – 32 No – 0 Abstain – 5

P/F Motion Passes

CI 69 SC 69.3.1 P48 L 30 # 62
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A
Delete the word 'approximately'

Suggested Remedy

Delete the word 'approximately'

Response Response Status C
ACCEPT.

CI 69 SC 3.3 P49 L 7 # 113

D'Ambrosia, John

Tyco Electronics

Editor 4

Comment Type TR Comment Status A channel

All channel figures and equations have been based on work for 10GBASE-KR
Add relevant figures / equations to address 1000BASE-KX / 10GBASE-KX4.

Suggested Remedy

Data to be presented at Austin.

Response Response Status C

ACCEPT IN PRINCIPLE.

Straw poll: Should the channel be the same between 1000BASE-KX, 10GBASE-KX4, and 10GBASE-KR?

Yes 20

No 8

Abstain 7

Motion #3

Technical (75%)

Description - Move to use the same informative channel model for 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR.

Moved - Shelto Vandoorn

Second - Mike Lerer

Yes - 20, No - 7, Abstain - 10

802.3 voters only

yes - 11, No - 4, Abstain - 8

Motion Fails

Motion #4

Technical (75%)

Description - Move to amend Motion #3. Use compatible channel model with unique frequency ranges for 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR.

Moved - Dave Koenen

Second - Pat Thaler

Yes - 10, No - 13, Abstain - 14

802.3 voters only

yes - 6, No - 9, Abstain - 9

Motion Fails

Motion #12

Technical (75%)

Description - Move to add a table to subclause 69.3 binding f1 and f2 values to the port types.

Moved - Joel Goergen

Second - Charles Moore

Yes - 26, No - 0, Abstain - 6

802.3 voters only

yes - 0, No - 0, Abstain - 0

Motion Passes

CI 69 SC 3.3 P49 L 7 # 112

D'Ambrosia, John

Tyco Electronics

Editor 4

Comment Type TR Comment Status A channel

Insertion loss model has come from identification of channels for 10GBASE-KR channels.

Appropriate channel models for 1000BASE-KX and 10GBASE-KX4.

Suggested Remedy

Rename section 69.3.3 to ""10GBASE-KR Channel Insertion Loss"" or modify table 69.2, so that the provided parameters are clearly identified as being related to 10GBASE-KR channels, i.e. add columns for 1000BASE-KX and 10GBASE-KX4.

Response Response Status C

ACCEPT IN PRINCIPLE.

Addressed by Motion #12.

CI 69 SC 69.3.3.1 P50 L 1 # 30

Alping, Arne

Ericsson AB

Editor 3

Comment Type T Comment Status A channel

It is confusing to use negative numbers for attenuation, resulting in a requirement that the attenuation should be greater than some limit

Suggested Remedy

Response Response Status C

ACCEPT.

Attenuation definitions will be changed to yield positive numbers and indicate a "loss".

CI 69 SC 69.3.3 P50 L7 # 29
Alping, Arne Ericsson AB Editor 3

Comment Type T Comment Status A channel

It is confusing to use negative numbers for insertion loss, resulting in a requirement that the loss should be greater than a lower limit

Suggested Remedy

Response Response Status C

ACCEPT.
Refer to comment #30

CI 69 SC 69.3.3.1 P50 L9 # 20
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A

Equation (69-2):
(1) Aminf should be Amin(f)
(2) put a space between the comma and fmin (at the end of equation)

Suggested Remedy

Response Response Status C

ACCEPT.

CI 69 SC 3.3.1 P50 L12 # 97
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

""The attenuation limit...""

Suggested Remedy

Reword ""The worst-case attenuation limit...""

Response Response Status C

ACCEPT.

CI 69 SC eq. 69 P50 L22 # 151
Mellitz, Richard Intel Editor 3

Comment Type TR Comment Status A channel

Need interim frequency point and first eq should be greater/equal to sign.

Suggested Remedy

$ILD(f) = ILDmin(f) \geq D1(min) + f * (D2(min) - D1(min)) / (f2 - f1)$ $f1 \leq f \leq fint$
 $\geq D1(min)$ $fint \leq f \leq fint2$

$ILD(f) = ILDmax(f) \leq D1(max) + f * (D2(max) - D1(max)) / (f2 - f1)$ $f1 \leq f \leq fint$
 $\leq D1(max)$ $fint \leq f \leq fint$

add fint tp table 69.2

Response Response Status Z

WITHDRAWN

CI 69 SC 4 P52 L44 # 100
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

For Table 69.2 sublayer MAC Control notes section 70.4, but section 70.4 only addresses PMD plus media delay.

Suggested Remedy

Delete or modify note to proper reference.

Response Response Status C

ACCEPT.

CI 70 SC 70.2.1 P55 L44 # 67
Marris, Arthur Cadence Editor 4

Comment Type T Comment Status A

State how the synchronization requirements differ from 36.2.5.2.6. I could not find any difference in the synchronization state machine other than sync_status being renamed to sync_status_KX.

Suggested Remedy

If the synchronization state machine is equivalent to the one in Clause 36 then clearly say so. State that the only difference is the removal of the description of AN from 36.2.5.2.6.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add sync_status_KX variable definition

Put in a note calling attention to the differences between state machines.

CI 70 SC 4 P57 L 10 # 102
 D'Ambrosia, John Tyco Electronics Editor 4
 Comment Type E Comment Status A
 This section does not include the paragraph ""Predictable operation...."". It is included in Section 69.4 as well as 71.3. Be consistent.
 Suggested Remedy
 copy paragraph from 69.4 and insert into 70.4
 Response Response Status C
 ACCEPT.
 Note that the reference to 44.3 in 71.3 should be 69.4. This will be reflected in 70.4 and 71.3 accordingly.

CI 70 SC 70.6.4 P58 L 26 # 87
 Thaler, Pat Agilent Editor 4
 Comment Type TR Comment Status A signal_detect
 For many systems, there may be little or no margin between the required Fail and signal OK values. The existing specification is impossible to design interoperable PMD's to since there is no way for the chip designer to know what the ""worst-case local system noise) will be. Make analog detection of loss of signal optional. Instead, use digital signal detect as in my proposal the required measure of input signal presence.

Suggested Remedy

Replace the first sentence of the subclause with:
 The PMD Signal Detect function is optional. If the function is not supported, the PMD shall continuously send the primitive PMD_SIGNAL.indicate with the value OK. If the function is supported, it shall meet the requirements of this subclause.
 Delete the paragraph, beginning ""As an unavoidable consequence...."" and in the table delete the row with the requirement for the FAIL value.

Response Response Status C
 ACCEPT.

CI 70 SC 6.6 P59 L 34 # 103
 D'Ambrosia, John Tyco Electronics Editor 4
 Comment Type E Comment Status A
 Clause 70.6.6 says loopback shall be implemented, but reference of control to 45.2.1.1.4 says loopback is optional for non 10G port types. Assume clause 70.6.6 overrides 45.2.1.1.4, but could cause confusion.
 Suggested Remedy
 Implementation of loopback mode is mandatory with control of the loopback function specified in 45.2.1.1.4.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 In 45.2.1.1.4, change:

"The loopback function is mandatory for the 10GBASE-X port type and optional for..."

to:

""The loopback function is mandatory for the 1000BASE-KX and 10GBASE-X port types and optional for..."

CI 70 SC 70.7.1 P60 L 24 # 31
 Alping, Arne Ericsson AB Editor 4
 Comment Type T Comment Status A
 Table 70-5: Replace ""10"" with ""[see Equation (54-4) and Equation (54-5)]""
 (in a similar way as done in Table 71-5)

Suggested Remedy

Response Response Status C
 ACCEPT.
 Change to "[See Equation 70-4 and 70-5]"

CI 70 SC 70.7.1.4 P62 L 46 # 21
 Alping, Arne Ericsson AB Editor 4
 Comment Type E Comment Status A
 Remove Lane n (n=0,1,2,3)
 1000BASE-KX is only one lane

Suggested Remedy

Response Response Status C
 ACCEPT.

CI 70 SC 70.7.1.5 P63 L 2 # 22
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A

Eq. (54-4) and (54-5): Is it an error in eq. numbering ? Should it not be related to Clause 70 ?

Suggested Remedy

Response Response Status C
ACCEPT.

CI 70 SC 70.7.2 P64 L 21 # 23
Alping, Arne Ericsson AB Editor 4

Comment Type T Comment Status A

Table 70-7: Replace ""10"" with ""[See Equation 54-4 and Equation 54-5]""

Suggested Remedy

Response Response Status C
ACCEPT.
Change to "[See Equalizer 70-5 and 70-5]".

CI 70 SC 7.2.1 P64 L 28 # 101
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

edit ""through a compliant backplane""
note is redundant

Suggested Remedy

change compliant backplane to ""compliant channel""
delete note.

Response Response Status C
ACCEPT.

CI 70 SC 70.11 P66 L 35 # 129
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

PICS Proforma Tables need to be generated for this clause.

Suggested Remedy

Solicit a volunteer to parse clause 70 and generate the tables for section 70.11 and update accordingly.

Response Response Status C
ACCEPT.

Bob Noseworthy (UNH-IOL) has volunteered for this Task. Tables will be generated and submitted to the editor for inclusion into the next draft.

CI 71 SC 71.5.4 P69 L 38 # 88
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

For many systems, there may be little or no margin between the signal OK value and the worst case system noise.

Make analog detection of loss of signal optional. Instead, use digital signal detect as in my proposal the required measure of input signal presence.

Suggested Remedy

Replace the first sentence of the subclause with:

The Global_PMD_signal_detect function is optional. If the function is not supported, the PMD shall continuously signal the SIGNAL_DETECT = OK and the PMD is never required to send PMD_signal.indicate since the value of SIGNAL_DETECT never changes. If the function is supported, it shall meet the requirements of this subclause.

Response Response Status C
ACCEPT.

CI 71 SC 71.5.4 P69 L 50 # 24
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A

Change ""250 usecs"" with ""250 μ s""

Suggested Remedy

Response Response Status C
ACCEPT.

CI 71 SC 71.5.5 P70 L 28 # 89
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

The reference should be to 71 rather than 54. Also, we don't have sections. We have Clauses and subclauses but I believe our convention is to just put the number and not include "subclause" when we reference a subclause.

Suggested Remedy

replace "section 54.5.4" with "71.5.4" Also, change signal detect to optional by changing the beginning of this subclause to "When the MDIO and the Global_PMD_signal_detect function are implemented, each ..." and also add "When the MDIO is implemented and the Global_PMD_signal_detect function is not implemented, each PMD_sigant_detect_n value shall continuously indicate OK.

Response Response Status C
ACCEPT.

CI 71 SC 71.6.1 P72 L 21 # 25
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A

"See figure (71-3)..." should be "See Figure (71-4)..."

Suggested Remedy

Response Response Status C
ACCEPT.

CI 71 SC 6.1.4 P74 L 17 # 109
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type T Comment Status R

tx return loss is unbounded after 2 GHz

Suggested Remedy

specify to 3.125 GHz

Response Response Status C
REJECT.

Propose to reject on the fact that this is based on the CX4 spec.

CI 71 SC 71.6.2 P77 L 7 # 32
Alping, Arne Ericsson AB Editor 2

Comment Type T Comment Status A

Is jitter tolerance missing ?

Suggested Remedy

Response Response Status C
ACCEPT IN PRINCIPLE.

Motion #8

Technical (75%)

Description - Move to use the same Receiver compliance methodology for KX and KX4 as described in clause 72A and modified by Palkert_01_0505.

Moved - Charles Moore
Second - Yuval Bachar

Yes - 23 , No - 1 , Abstain - 10

802.3 voters only

Yes - 19 , No - 0 , Abstain - 6

Motion Passes

CI 71 SC 6.2.1 P77 L 27 # 95
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

edit "through a compliant backplane"
note is redundant

Suggested Remedy

change compliant backplane to "compliant channel"
delete note.

Response Response Status C
ACCEPT.

CI 71 SC 6.2.5 P78 L7 # 110
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type T Comment Status R

rx return loss is unbounded after 2 GHz
no figure for rx return loss

Suggested Remedy

specify to 3.125 GHz
add figure

Response Response Status C

REJECT.

Propose to reject on the fact that this is based on the CX4 spec.

CI 71 SC 71.10 P79 L1 # 130
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

PICS Proforma Tables need to be generated for this clause.

Suggested Remedy

Solicit a volunteer to parse clause 71 and generate the tables for section 70.10 and update accordingly.

Response Response Status C

ACCEPT.

Bob Noseworthy (UNH-IOL) has volunteered for this Task. Tables will be generated and submitted to the editor for inclusion into the next draft.

CI 72 SC 3 P82 L6 # 104
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

""regarding the cable topology and concatenation....""

Suggested Remedy

""regarding concatenation""

Response Response Status C

ACCEPT.

CI 72 SC 72.3 P82 L13 # 136
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

To be consistent with definitions adopted for -KX and -KX4, the 10GBASE-KR delay constraint should include media delay.

Suggested Remedy

Change:

""The sum of the transmit and the receive delays contributed by the 10GBASE-KR PMD shall be no more than 512 BT or 1 pause_quantum.""

to

""The sum of the transmit and the receive delays contributed by the 10GBASE-KR PMD, including media delay, shall be no more than 512 BT or 1 pause_quantum.""

Adjust the total delay constraint, if necessary. Remove editor's note. Ensure consistency with Table 69-4 (page 53, line 20).

Response Response Status C

ACCEPT.

CI 72 SC 72.5.9 P85 L33 # 90
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

The signal_detect generated by the state machine is lower case. Shouldn't that be the signal used here?

Suggested Remedy

change SIGNAL_DETECT to signal_detect.

Response Response Status C

ACCEPT.

CI 72 SC 5.10 P85 L 36 # 51
 Szczepanek, Andre Texas Instruments Editor 3

Comment Type T Comment Status A

DFE based receivers have an inherent potential to turn single bit errors into bursts. This will impact error detection coverage of the packet CRC, and the overall MTTPF of the link. We should at least restrict DFE Tap weights to prevent worst case problems.

Suggested Remedy

Cumulative Exponential Decay is the most stable way to constrain error propagation under a variety of pessimistic conditions. It is stable independent of the total number of taps in the DFE, the distribution of tap weights, and the raw BER of the data link. Adopt a Cumulative Exponential Decay constraint on tap weights, similar to that in the OIF CEI-2.0 spec.
 le : Maximum cumulative weight $Y = (1 - \text{eye opening})/2$ for sum of all taps N through M
 Exponential decay factor $Z = 2/3$

I will make a presentation on this subject at the May interim

Response Response Status Z

WITHDRAWN

WITHDRAWN

CI 72 SC 5.10.2.1-6 P85 L 50 # 139
 Brink, Robert Agere Systems Editor 3

Comment Type TR Comment Status A

Multiple concerns have been raised about the startup protocol as it is currently defined. Including acquisition time, timeout concerns, and tap range and resolution.

Suggested Remedy

Update Frame Format with contents of brink_02_0505.pdf

Response Response Status C

ACCEPT IN PRINCIPLE.

Overcome by Motion #11.

CI 72 SC 5.10.2 P85 L 52 # 40
 Gaither, Justin Xilinx Editor 4

Comment Type T Comment Status A

Need to specify where DME is defined.

Suggested Remedy

Add ""as defined in Clause 73"" after ""(DME)""

Response Response Status C

ACCEPT IN PRINCIPLE.

Since DME is used in multiple clauses, also add definition to subclause 1.4.

add DME to 1.5

CI 72 SC 72.5.10.2 P86 L 14 # 137
 Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

To address various concerns with the start-up protocol, augment the frame structure to enable:
 1. mechanism by which receipt of an Tx equalizer update may be acknowledged
 2. mechanism by which the current state of the Tx equalizer may be signaled
 3. provide a deterministic mapping between the Tx equalizer setting and the Tx output waveform
 These changes will also likely result changes to clause 45 register formats (10GBASE-KR Control, 10GBASE-KR Status, Tx equalizer).

Suggested Remedy

A presentation is expected to address these issues in more detail (brink_02_0505).

Response Response Status C

ACCEPT IN PRINCIPLE.

Overcome by Motion #11.

CI 72 SC 72.5.10.2.1 P86 L 31 # 63
 Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Change 'Frame' to 'Frames'

Suggested Remedy

Change 'Frame' to 'Frames'

Response Response Status C

ACCEPT.

CI 72 SC 5.10 P86 L 34 # 42
Gaither, Justin Xilinx Editor 4

Comment Type TR Comment Status A

There is no definition of what todo with a frame if an error occurs during a frame.

Suggested Remedy

Add ""IF a DME coding error occurs during a the Control channel frame, the entire frame shall be discarded and ignored.""

Response Response Status C

ACCEPT IN PRINCIPLE.

Error can exist between delimiter and training pattern (control fields within frame).

If a coding violation is detected within those bounds the content should be ignored.

CI 72 SC 5.10.2.5 P87 L 35 # 52
Szczepanek, Andre Texas Instruments Editor 3

Comment Type TR Comment Status A

Don't we need to state somewhere that tap values saturate at their +ve and -ve limits. Or are we implicitly allowing roll-over ?

Suggested Remedy

Add text along the lines of:
""Coefficient increments shall saturate at the maximum +ve value of the tap. Coefficient decrements shall saturate at the maximum -ve value of the tap.""

Response Response Status C

ACCEPT IN PRINCIPLE.

Overcome by Motion #11.

CI 72 SC 5.10.2.7 P88 L 34 # 55
Moore, Charles Agilent Technologies Editor 3

Comment Type T Comment Status A

Training pattern has a couple of weaknesses:

1. It is very short and will have to be repeated many times before Receiver has enough information to update Tx. In the mean time useless Frame markers, coefficient updates, and status reports use up time
2. It does not contain a long enough run of ones or of zeros properly to stress the receiver.

Suggested Remedy

Add long run length of 1s and another one of 0s (separated to avoid looking like the Frame Marker, Use longer PRBS pattern, or allow entire pattern to repeat many several times before inserting coefficient update and status report.

Response Response Status Z

WITHDRAWN

CI 72 SC 5.10.3 P89 L 3 # 34
Gaither, Justin Xilinx Editor 3

Comment Type T Comment Status A

There is no method for determining when updates arrive and when corrections have been implemented.

Suggested Remedy

I recommend that we remove the Update Gain bits and replace with a new correction update flag. The process would be Transceiver A would request an update of Transceiver B. ""A"" would continuously make the request until it receives and correction update flag from B. B would send the flag for 3 training frames, then clear it. A would look for the flag in any frame; but ignore flags in following 3 frames. A must wait until B has disabled the update flag before requesting new update.

Response Response Status C

ACCEPT IN PRINCIPLE.

Addressed by Motion #11.

CI 72 SC 72.5.10.3 P89 L 7 # 64
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Change 'as difference' to 'as the difference'

Suggested Remedy

Change 'as difference' to 'as the difference'

Response Response Status C

ACCEPT.

CI 72 SC 72.5.10.4.1 P89 L 17 # 148
Ganga, Ilango Intel Editor 4

Comment Type T Comment Status A

mr_training_enable variable is not defined in sub clause 72.5.10.4.1 State Variables. Define this variable and provide appropriate description

Suggested Remedy

Define state variable: mr_training_enable to sub clause 72.5.10.4.1

Response Response Status C

ACCEPT.

CI 72 SC 72.5.10.4.1 P89 L 25 # 91
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A signal_detect

No loss of signal function is defined. In this system, worst case noise level is too close to minimum receive signal for such a function to be practical in the analog domain. Therefore, delete this variable.

Suggested Remedy

Deleted loss_of_signal from the variables and state machines.

Response Response Status C

ACCEPT.

CI 72 SC Figure 72-3 P91 L 10 # 68
Marris, Arthur Cadence Editor 4

Comment Type T Comment Status A

What does 'UTC' mean?

Suggested Remedy

Please define 'UTC'

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "UTC" to "UCT". "UCT" is commonly used throughout 802.3 to represent "unconditional transition".

CI 72 SC 72.6.1.3 P95 L 13 # 26
Alping, Arne Ericsson AB Editor 4

Comment Type E Comment Status A

Remove ""(n=0,1,2,3)""; 10GBASE-KR has only one lane""

Suggested Remedy

Response Response Status C

ACCEPT.

CI 72 SC eq 72-1 and 72-2 P95 L 23 # 152
Mellitz, Richard Intel Editor 4

Comment Type TR Comment Status A

RL spec suggest that pad capacitance be lower than 0.4 pf. This may be difficult to achieve.

Suggested Remedy

Make number TBD in equation until resolution is achieved.

Response Response Status C

ACCEPT IN PRINCIPLE.

Reduce eq. 72-1 upper limit from 7.5GHz to 2.5GHz and reduce eq 72-2 lower limit from 7.5GHz to 2.5GHz and upper limit on 72-2 to 7.5GHz

CI 72 SC 6 P96 L 25 # 105
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status A

Figure is listed as informative, but other references in equalations and text dont indicate this.

Suggested Remedy

delete ""informative"" in title of figure 72-7

Response Response Status C

ACCEPT.

CI 72 SC 6.1.8 and 6.1.9 P97 L 16 # 138
Brink, Robert Agere Systems Editor 4

Comment Type TR Comment Status A

Transmitter compliance methodology needs to be defined.

Suggested Remedy

Replace contents of this clause with contents of brink_01_0505.pdf

Response Response Status C

ACCEPT IN PRINCIPLE.

Addressed by Motion #9 and #10.

CI 72	SC 72.6.1.8	P97	L 16	# 135
Healey, Adam		Agere Systems	Editor 4	

Comment Type T Comment Status A

Transmitter equalization requirements under-defined.

Suggested Remedy

Clarify transmit equalization requirements including (but not limited to):

1. test pattern
 2. transmit mask (or equivalent) for each state the transmit equalizer is expected to assume
- Presentations are expected that should address the details of this issue directly.

Response Response Status C

ACCEPT IN PRINCIPLE.

Addressed by Motions #9 and #10.

CI 72	SC 72.6.1.8	P97	L 20	# 27
Alping, Arne		Ericsson AB	Editor 4	

Comment Type E Comment Status A

replace ""forwardpre-emphasis"" with ""forward pre-emphasis""

Suggested Remedy

Response Response Status C

ACCEPT IN PRINCIPLE.
Delete "pre-emphasis".

CI 72	SC 6.1.8	P97	L 37	# 49
Szczepanek, Andre		Texas Instruments	Editor 4	

Comment Type E Comment Status A

Typo: ""Figure 72-8--Thre tap feed forwardpre-emphasis""

Suggested Remedy

""Figure 72-8--Three tap feed forward pre-emphasis""

Response Response Status C

ACCEPT IN PRINCIPLE.
Refer to comment #27

CI 72	SC 72.6.1.8	P97	L 37	# 28
Alping, Arne		Ericsson AB	Editor 4	

Comment Type E Comment Status A

Figure 72-8: Replace ""Thre tap feed forwardpre-emphasis"" with ""Three tap forward pre-emphasis""

Suggested Remedy

Response Response Status C

ACCEPT IN PRINCIPLE.
Replace with "3-Tap Feed-Forward Equalizer"

CI 71	SC 6.2	P98	L 31	# 35
Gaither, Justin		Xilinx	Editor 4	

Comment Type T Comment Status A

destruction is not a good way to define the issue

Suggested Remedy

replace destruction with ""perminent damage""

Response Response Status C

ACCEPT.
Replace with "permanent damage".

CI 72	SC 6.2.1	P98	L 38	# 106
D'Ambrosia, John		Tyco Electronics	Editor 4	

Comment Type E Comment Status A

compliant backplane

Suggested Remedy

change to ""compliant channel""

Response Response Status C

ACCEPT.

CI 72 SC 6.2.5 P99 L 20 # 96
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type E Comment Status R

absence of return loss figure

Suggested Remedy

add

Response Response Status C

REJECT.

Return loss equation and Figure are identical to transmitter return loss (refer to 72.6.1.4, Equations 72-1 and 72-2, and Figure 72-7). Duplication of figure is not necessary.

CI 72 SC 6.2 P99 L 50 # 54
Moore, Charles Agilent Technologies Editor 3

Comment Type T Comment Status A

Receiver specifications lack really useful testable specifications, 72.6.2.1 is not testable.

Suggested Remedy

add a new paragraph: Receiver should have a Baseline Relative Extrapolated Interference Tolerance of -65mV when tested by the method described in Annex 72A.4.2 "Swept frequency sinusoid interference"

Response Response Status Z

WITHDRAWN

CI 72 SC 72.7 P99 L 50 # 131
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

PICS Proforma section and tables need to be generated for this clause.

Suggested Remedy

Solicit a volunteer to parse clause 72 and generate the PICS proforma tables. Create section 72.7 and populate accordingly.

Response Response Status C

ACCEPT.

Bob Noseworthy (UNH-IOL) has volunteered for this Task. Tables will be generated and submitted to the editor for inclusion into the next draft.

CI 72A SC 2 P102 L # 107
D'Ambrosia, John Tyco Electronics Editor 4

Comment Type T Comment Status A

Compliance Interconnect Definition refers to only part of the definition.

Suggested Remedy

Refer to section 69.3.3

Response Response Status C

ACCEPT IN PRINCIPLE.

Compliance interconnect specification will be added to this sub-clause. Formula 69-2 and supporting text will be added. Also, the inequality sign will be reversed to indicate that the compliance channel will be no better than indicated in 69-2.

CI 72A SC 4.1 P102 L # 108
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type T Comment Status R

Definition of testing is unclear when using multiple interferers.

Suggested Remedy

Modify procedure to deal with 1 to n interferers.

Response Response Status C

REJECT.

Sinusoidal interferer represents the sum of all the aggressors.

CI 72A SC 2 P102 L 33 # 111
D'Ambrosia, John Tyco Electronics Editor 3

Comment Type TR Comment Status R

Compliance interconnect is actually referring to an informative model. However, recent work has indicated need to account for crosstalk as well.

Suggested Remedy

Change referral on compliance to the full compliance specification.

Response Response Status C

REJECT.

Sinusoidal interferer is modeling the impairments due to crosstalk.

CI 72A SC 3 P103 L 37 # 94
Sawyer, Shannon Agilent Editor 4

Comment Type TR Comment Status A

The interference injection block (fig 72A-3) has too little coupled power between the interference port and the signal path. Typical instruments used for the interference signal can provide -15dBm to 15dBm from 10MHz to 10GHz. When the interfering signal is summed in with the circuit on fig 72A-3, the interfering signal is 56mV. Depending on the frequency, data pattern, and vendor's SerDes receiver, this may not be enough to stress the RX enough to cause bit errors.

Suggested Remedy

I propose that we use a broadband directional coupler with <1dB of insertion loss at Nyquist for the signal path, and 10dB of broadband coupling for each interference path. These are commercially available from reputable microwave component distributors.

Response Response Status C

ACCEPT IN PRINCIPLE.

Specify the interference injection block as a black box with informative examples for KX, KX4 and KR.
Interferer minimum frequency should also be raised to 1/10 of the baud rate.

CI 72A SC 72A.4.2 P105 L 38 # 33
Alping, Arne Ericsson AB Editor 3

Comment Type T Comment Status R

"...and optimize equalization".

Suggested Remedy

Should maybe restricted to 3-taps for the TX equalization ?

Response Response Status C

REJECT.

Text supplied on page 101 clarifies the issue.

CI 73 SC 73 P108 L 1 # 78
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

There's an opportunity to scrub this clause for style.

Suggested Remedy

E.g. change 'Auto Negotiation' to 'Auto-negotiation', in 73.2 change 'Physical Layer' to 'physical layer', and many more.

Response Response Status C

ACCEPT.

CI 73 SC 73.1 P108 L 24 # 65
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

'a' should be capitalized on line 24.

Suggested Remedy

'a' should be capitalized on line 24.

Response Response Status C

ACCEPT.

CI 73 SC 73.1 P108 L 24 # 114
Thaler, Pat Agilent Editor 4

Comment Type E Comment Status A

Missing capitalization at the beginning of paragraph.

Suggested Remedy

Response Response Status C

ACCEPT.

CI 73 SC 1 P108 L 40 # 2
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type E Comment Status A

Reference to clause 28E. Should be Clause 73

Suggested Remedy

Replace 28E with 73

Response Response Status C

ACCEPT.

CI 73 SC 5 P110 L 8 # 36
Gaither, Justin Xilinx Editor 3

Comment Type T Comment Status R

DME is also transmitted during link initialization.

Suggested Remedy

change to DME pages shall not be transmitted when auto-negotiation is complete except during link initialization of 10Gbase-kr channels as defined in 72.5.10.

Response Response Status C

REJECT.

AN-WG proposal: In Clase 72 they send training frames using DME ecoding, but never send DME pages.

CI 73 SC 73.5.1 P110 L 18 # 119
Thaler, Pat Agilent Editor 2

Comment Type TR Comment Status A

Add a figure that shows the DME page (mainly show the Manchester violations followed by normal Manchester).

Suggested Remedy

I'm willing to generate this.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: Pat will generate picture showing Manchester violation

CI 73 SC 5.1.1 P110 L 25 # 39
Gaither, Justin Xilinx Editor 4

Comment Type T Comment Status A

I thought we defined a table of electrical values for DME encoded values? Where is it?

Suggested Remedy

Check minutes: If we approved a set of electrical values for DME add a table documenting it here.

Response Response Status C

ACCEPT.

AN-WG proposal: Include text from previous Comment database:

Will define a DME transmit electrical spec of 600mV to 1200mV.

Include Rx minimum sensitivity of 200mV

CI 73 SC 73.5.1.1 P110 L 27 # 117
Thaler, Pat Agilent Editor 4

Comment Type T Comment Status A

This should have been fixed last time. ""Electrical idle"" was removed so the Editor's note should be deleted. Need to insert the reference for disable.

Suggested Remedy

Correct reference is 71.5.7.

Response Response Status C

ACCEPT.

AN-WG proposal: accept

CI 73 SC 5.1.1 P110 L 27 # 37
Gaither, Justin Xilinx Editor 4

Comment Type T Comment Status A

Need to either put TBD or specify where transmitter disable is defined. Also the statement lane1 to lane 3 ""should"" be disabled is not appropriate.

Suggested Remedy

transmit disable is defined in 71.5.6. Change sentence to ""The transmitters shall be disabled as defined in 71.5.6 or transmit fixed data value of all zeros.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: See next comment 117

CI 73 SC 5.1 P110 L 27 # 4
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type E Comment Status A

Missing reference. The sentence ends without the reference to 71.5.7

Suggested Remedy

Insert reference to 71.5.7

Response Response Status C

ACCEPT.

CI 73 SC 5.2 P110 L 39 # 38
Gaither, Justin Xilinx Editor 3

Comment Type T Comment Status A

Manchester violation needs to be more explicitly defined.

Suggested Remedy

Add a diagram showing the exact data transmitted during violation and where first bit of frame is located.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: See comment 119

CI 73 SC 73.5.2 P110 L 42 # 122
Chang, Luke Intel Editor 4

Comment Type T Comment Status A

DME page encoding section doesn't clarify whether DMEs are transmitted continuously or if there are IDLEs between pages. This should be clarified.

Suggested Remedy

Clarify that DMEs are transmitted continuously and a Manchester violation delimiter signals the start of a new page.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: Include text to 73.5.2. "DME pages are transmitted continuously without any idle or gap"

CI 73 SC 5 P112 L 9 # 14
Spagna, Fulvio INTEL Editor 4

Comment Type T Comment Status A

T1, T2, T3 and T5 only have typical values.

Suggested Remedy

Specify min and max.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: Change Table remove Typ, add +/-0.1%

CI 73 SC 73.5.3 P112 L 11 # 126
Chang, Luke Intel Editor 3

Comment Type T Comment Status A

Clock transition to clock transition speced as 6.4ns. A range should be defined.

Suggested Remedy

Suggest change spec to 6.4ns +/- 100ps.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: See comment 14

CI 73 SC 73.5.3 P112 L 13 # 127
Chang, Luke Intel Editor 3

Comment Type T Comment Status A

Clock transition to data transition speced as 3.2ns typical. A range should be defined.

Suggested Remedy

Suggest change to 3.2ns +/- 100ps.

Response Response Status C

ACCEPT IN PRINCIPLE.

AN-WG proposal: See comment 14

CI 73 SC 73.6 P113 L 2 # 120
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

""Capability bit"" should be ""Capability bits."" Need to insert a reference to 28B.3 for pause capability resolution. The editor's note can then be removed as the pause issues it notes will have been fixed.

Suggested Remedy

Correct as noted above.

Response Response Status C

ACCEPT.

AN-WG proposal: Accept

CI 73 SC 73.6.1 P113 L 35 # 115
Thaler, Pat Agilent Editor 4

Comment Type E Comment Status A

It appears this editor's note should be deleted. The Annex 28A update is in place.

Suggested Remedy

Response Response Status C

ACCEPT.

CI 73 SC 73.6.2 P114 L 9 # 121
Thaler, Pat Agilent Editor 4

Comment Type TR Comment Status A

There is little reason to define what the bits are reserved for. If at some point in the future we define an eight additional technology and we still had unused bits here such as A10 wouldn't we use it for the future technology. Similarly if we added parameters such that we used up A10 to A31 and we needed another parameter bit wouldn't we use A9? It isn't like designs can take advantage of pre-allocating these bits between the two purposes.

Suggested Remedy

Mark all unused bits as reserved. It would be acceptable to put in a note that suggests that bits for future technologies start allocation from A3 and bits for future parameters start allocation from Bit A31 so that the two kinds of information are grouped together.

Response Response Status C

ACCEPT IN PRINCIPLE.
AN-WG proposal: Accept

CI 73 SC 73.7.1 P116 L 25 # 125
Chang, Luke Intel Editor 4

Comment Type T Comment Status A

DME electricals should be better defined as differential peak to peak.

Suggested Remedy

DME transmit electrical signal should be defined as between 600mV and 1200mV differential peak to peak. DME minimum receive sensitivity should be 200mV differential peak to peak.

Response Response Status C

ACCEPT.
AN-WG proposal: Accept and add "differential peak to peak" to text

CI 73 SC 7 P116 L 26 # 13
Spagna, Fulvio INTEL Editor 4

Comment Type E Comment Status A

Clarify whether the signals units are peak , peak-to-peak etc.

Suggested Remedy

Response Response Status C

ACCEPT.

CI 73 SC 7.4.1 P117 L 8 # 3
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type E Comment Status A

Reference to clause 28E. Should be Clause 73

Suggested Remedy

Replace 28E with 73

Response Response Status C

ACCEPT.

CI 73 SC 7.4.1 P117 L 17 # 43
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type E Comment Status A

""AN LINK GOOD CHECK"" not a valid state name

Suggested Remedy

Replace ""AN LINK GOOD CHECK"" by ""AN GOOD CHECK""

Response Response Status C

ACCEPT.

CI 73 SC 7.6 P118 L 18 # 44
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type E Comment Status A

""DME LINK GOOD CHECK"" state not defined, use ""AN GOOD CHECK""

Suggested Remedy

Replace ""DME LINK GOOD CHECK"" by ""AN GOOD CHECK""

Response Response Status C

ACCEPT.

CI 73 SC 73.7.7 P118 L 36 # 66
Marris, Arthur Cadence Editor 4

Comment Type E Comment Status A

Spelling of 'acknowledgment'

Suggested Remedy

Change to 'acknowledgement'

Response Response Status C

ACCEPT.

CI 73 SC 7.7 P118 L 39 # 45
 Joergensen, Thomas Vitesse Semiconductor Editor 4
 Comment Type E Comment Status A
 ""DME LINK GOOD CHECK"" is not a valid state name, replace by ""AN GOOD CHECK""
 Suggested Remedy
 ""DME LINK GOOD CHECK"" has to be replaced by ""AN GOOD CHECK""
 Response Response Status C
 ACCEPT.

CI 73 SC 7.7 P119 L 12 # 46
 Joergensen, Thomas Vitesse Semiconductor Editor 4
 Comment Type T Comment Status A
 ""D[15:0]"" has to be replaced by ""D[10:0]"" since bits 15:11 are reserved for T, Ack2, MP, Ack, NP
 Suggested Remedy
 Replace ""D[15:0]"" by ""D[10:0]""
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 AN-WG proposal: Accept

CI 73 SC 73.7.7.1 P120 L 4 # 116
 Thaler, Pat Agilent Editor 4
 Comment Type E Comment Status A
 Editor's notes that should have been deleted (the problems they note have been dealt with) are still here.
 Suggested Remedy
 Delete this editor's note and the ones at
 Page 120 line 35 (I think we have done this. If we haven't the editor's note obviously isn't making it happen.)
 Page 127 line 22 (We have decided to do primitives even if we haven't finished updating that section it has its own editor's note.)
 Page 129 line 23 (The document has been out for a couple of cycles and the values have held so we should delete the note and consider them accepted.)
 page 132 line 37.
 Response Response Status C
 ACCEPT.

CI 73 SC 9.1 P123 L 44 # 1
 Joergensen, Thomas Vitesse Semiconductor Editor 4
 Comment Type E Comment Status A
 Spelling error. cod_select should be code_select
 Suggested Remedy
 Replace cod_select with code_select
 Response Response Status C
 ACCEPT.

CI 73 SC 9.2 P129 L 45 # 53
 Szczepanek, Andre Texas Instruments Editor 4
 Comment Type TR Comment Status A
 There is a great disparity between the accuracy of the interval timer (3.2ns +/- 0.01%) and the data detect timers: data_detect_min timer (1.6-2.4nS), data_detect_min timer (4.0-4.8nS). If the data_detect timers are to have such a 1.6ns guard band between them - (2.4-4.0nS) then requiring a 0.01% accuracy on the interval timer is unnecessary. Looking back at clause 28 the interval timer had an accuracy of +/- 11% and was well balanced versus the accuracy of the data detect timers.
 However I do see value in specifying the interval timer with an accuracy of 0.01% if the data detect timer accuracies are altered accordingly. Making such changes will facilitate the decoding of DME symbols from deserialized parallel data values.

Suggested Remedy
 I will make a presentation at the May Interim justifying a set of tighter data detect timer limits and suggested values.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 AN-WG proposal: Accept
 Change data_detect_min_timer MAX in table 73-6 from 2.40 to 3.01ns
 Change data_detect_max_timer MIN in table 73-6 from 4.00 to 3.39ns

CI 73 SC 73.9.4 P130 L 40 # 118
 Thaler, Pat Agilent Editor 2
 Comment Type T Comment Status A
 Give Pat editorial license to make the primitives right unless someone else would like to volunteer. (Grumble, grumble - primitive boiler plate stuff again.)
 Suggested Remedy

Response Response Status C
 ACCEPT IN PRINCIPLE.
 AN-WG proposal: Accept Pat is still objecting

Pat will generate the primitives and clean up the link and sync status variables.

CI 73 SC 73.9.5 P133 L 2 # 79
Dawe, Piers Agilent Editor 4

Comment Type E Comment Status A

Figure 73-3 is hard to read because the font is so small. While we may not be able to increase the font size much for every diagram in this clause, I think we can here.

Suggested Remedy

Use minimum font size of 8 point wherever feasible. In spite of style guide, I would prefer 10 point where convenient.

Response Response Status C
ACCEPT.

CI 73 SC 73.9.5 P134 L 2 # 123
Chang, Luke Intel Editor 4

Comment Type T Comment Status A

In receive state diagram, the first condition for flp_link_good is undefined. This is probably a carry over from Clause 28 and should be redefined.

Suggested Remedy

Change to an_link_good.

Response Response Status C
ACCEPT.
AN-WG proposal: Accept

CI 73 SC 73.9.5 P134 L 22 # 124
Chang, Luke Intel Editor 3

Comment Type T Comment Status R

In the receive state diagram, in the DME_Clock state, there is no check required for the 6.4ns DME clock to clock time. This should be part of state machine condition.

Suggested Remedy

Add check for the DME clock to clock time.

Response Response Status C
REJECT.

Change not needed, lack of a specific remedy makes it difficult to consider the effects of the change.

CI 73 SC 9.5 P135 L 39 # 5
Joergensen, Thomas Vitesse Semiconductor Editor 4

Comment Type TR Comment Status A

Figure 73-9: Manchester_receive_idle is not defined. Should be an_receive_idle

Suggested Remedy

Replace Manchester_receive_idle with an_receive_idle

Response Response Status C
ACCEPT.
AN-WG proposal:Accept

CI 73 SC 73.10 P135 L 51 # 132
Healey, Adam Agere Systems Editor 4

Comment Type T Comment Status A

PICS Proforma section and tables need to be generated for this clause.

Suggested Remedy

Solicit a volunteer to parse clause 73 and generate the PICS proforma tables. Create section 73.10 and populate accordingly.

Response Response Status C
ACCEPT.
Bob Noseworthy (UNH-IOL) has volunteered for this Task. Tables will be generated and submitted to the editor for inclusion into the next draft.