*Cl* **00** *SC* *P* **7** *L* **6** # 5

Brett McClellan Solarflare

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

"If column 2 is deleted, the check_end function (48.2.6.1.4) will insert E in lanes 2 and 3 of the column before 1 and in lanes 0 and 1 of column 1 because the column after the ||T|| column contains code groups other than /A/ or /K/."
This text is incorrect.

The argument in the response is that 48.2.4.2.3 allows for column 2 to be deleted (NOTE: but only in the unencoded domain) and that the packet loss occurs because the check_end function should propogate E's into the prior columns if the column after ||T|| contains code groups other than /A/ or /K/.
However, the check_end function operates in the encoded domain only, ie. it checks for /A/ or /K/ following ||T||, not for I (Idle in unencoded domain), see 48.2.6.1.4.
Therefore if column 2 is deleted in the unencoded domain, the deletion takes place after the check_end function and will not generate any E's.

For the given example, if column 2 is deleted in the unencoded domain, the IFG becomes:
Column a b c d
Lane0.... D O I I
Lane1.... T O I I
Lane2.... I O I I
Lane3.... I O I I
which does not violate any requirements of Clause 46 or 48.

If the XGXS receive process is followed by a 10GBASE-R PCS, and columns a and b are presented as the 64-bit input to the 64B/66B encoder then they represent an invalid combination and will be replaced by two columns of E. The packet will be dropped.

Also note that none of this affects the primary response of 3a that Clause 46.2.1 is ambiguous as to whether "other than idle" control symbols are counted towards determining the IPG value.

*SuggestedRemedy*

Either delete the second part of the reponse to 3a ( page 6 line 33 to page 7 line 8) or replace the text above with:
"If column 2 is deleted in the unencoded domain and the XGXS receive process is followed by a 10GBASE-R PCS, and columns 1 and 3 are presented as the 64-bit input to the 64B/66B encoder then they represent an invalid combination and will be replaced by two columns of E. Hence the packet will be dropped."

*Response* *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 'If column 2 is deleted, ..' to read 'If column 2 is deleted in the unencoded domain followed by an encoded domain, ..'.

*Cl* **Q2** *SC* *P* **6** *L* **10** # 1

Piers Dawe Avago Technologies

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

The draft as modified says there are two alternative implementations. These are observable. That's ambiguity. The BRC in its response to D1.1 comment 3 said they are interoperable; I don't disagree. Further, it said "Anybody testing the line should accommodate both implementations, just as a compliant receive is required to." While a compliant (product) receiver should accommodate both implementations, that's simply because errors might happen, not because the receiver implementer is expected to think of arcane alternative interpretations of the standard. I do not agree that anybody testing the line can be expected to think of all arcane alternative interpretations; he should be able to put his trust in what he reads in a standard. Someone implementing a transmitter tester may put more weight on one or other of 48.2.4.2 and 48.2.4.4; depending which he believes is right, he can then fail a transmitter which in good faith had been built to the other interpretation. Even though the tester can "accommodate" what it receives, in the sense of continuing to work, it can observe the difference and e.g. count a different number of error code-groups to what it expects. In this way a transmitter that we believe would have been interoperable, and conforms to one alternative reading of the standard, can be failed. Therefore this ambiguity does matter, and should be brought to the attention of the Working Group for possible action at the next revision.

*SuggestedRemedy*

Change the classification to "Ambiguous" and add "This ambiguity has been brought to the attention of the Working Group for possible action at the next revision." or similar words.

*Response* *Response Status* **C**

REJECT.

It is not ambiguous, it allows two different options. In respect to testers, they can only deal with what is there and both these options currently exists.

If the WG were to change the standard to remove one of the two options it would make existing compliant implementations non-complaint. If the WG were to deprecate one of the two options, a tester still needs to support the legacy option.

*Cl* **Q2** *SC* *P* **6** *L* **13** # 3

Piers Dawe Avago Technologies

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

Theses

*SuggestedRemedy*

These

*Response* *Response Status* **C**

ACCEPT.

*Cl* **Q2** *SC* *P* **6** *L* **17** # 2

Piers Dawe Avago Technologies

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

Draft says "Instead therefore they [a column] have to be considered either a reserved XGMII character or invalid XGMII character." Yet XGMII characters represent individual bytes, not whole columns. Also the state machine takes precedence, so I am not convinced that the standard contains justification for Alternative 1 (Option 2), the whole-column approach.

*SuggestedRemedy*

Please discuss. Consider removing Alternative 1 (Option 2).

*Response* *Response Status* **C**

REJECT.

These two alternatives are specified in the text as described, this is not covered by state machine and the state machine would only take precedence if it conflicts with the text.

*Cl* **Q2** *SC* *P* **6** *L* **28** # 4

Piers Dawe Avago Technologies

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

We haven't said how to choose between A, K and R for Option 2. 48.2.4.2 is very specific about "full columns", so it may not apply here.

*SuggestedRemedy*

As far as I can see, this choice is up to the implementer. Does the BRC think that all three options are OK? For instance, are there implications for false packet acceptance or deskew? If less than all three are OK, the BRC may wish to declare an ambiguity here.

*Response* *Response Status* **C**

REJECT.

This comment is out of scope as it does not relate to text changed in the last recircuation.