Comments against Hajduczenia_3bn_04_1113_R02.pdf

The table references in this do not match those in the draft and are not marked as changed. Please fix this.

[mh0926] I would welcome specific details here – as far as I can tell, they do match content of P802d3bn_d02.pdf that was published as the official draft. If I missed any, please provide page / line information. I'll be more than happy to fix these.

(drr0 Examples (not exhaustive) Table 101-2 s/b -5, Table 101–2 s/b -6, Table 101–2 s/b -7 …

In the 2nd sentence of this same para you end with ", complementing it." Personally I have no idea what this is supposed to mean and it needs to wither be clarified to removed.

 [mh0926] If you follow the logic of what is happening carefully, you'll see that a 65-bit block is filled with 40 bits of CRC40 first and the remaining 25 bits come from FEC parity. The FEC parity bits in this case complement the 65-bit block.

(drr) complement in logic means to invert, as in one's complement and two's complement. In this context the meaning is ambiguous and the phrase should be reworded or stricken.

In Figure 101-1 There are some stray bits in the 65b block overlapping the FEC parity, I'm assuming these are the padding mentioned in the text but it is not clear. If my assumption is correct please add an indication that this is padding.

[mh0926] please read the text on page 35 lines 5-7 which I believe explains what these are and what their purpose is. I think it leaves no place for assumptions …

(drr) thank you for confirming my understanding, please fix the figure to reflect the text.

Pg 37 Ln 10 Constants – I don't see how these can be constants when you have 3 or four FEC codewords to choose from. At some point before encoding you will need to decide which FEC is to be used and at that point you need to "set" these constants, Hence in the math I was taught they are variables. This may be too big to fix completely in this submission but we will need to address this. I suggest moving these to the Variables sub-clause with an editor's note that we need a state diagram to set these when a FEC encoding is selected.

[mh0926] They are constant as far as the operation of the state diagram is concerned, i.e., we do not modify their values once the SD operation has started. In that respect, these are constants as opposed to variables, which represent calculated values, counters, etc.

(drr) entered comment, didn't include editors note as we should have text to resolve this!

Comments on Hajduczenia_3bn_05_1113.pdf

Pg 29 ln 4 you state the FIFO_FEC_TX stores 66-bit blocks but in the definition of this FIFO_FEC_TX it states it stores 65b block, which I suspect is correct. This seems to be a pervasive error, please check each instant of 66-bit for correctness.

 [mh0926] Fixed to 65-bit blocks. If you find any other issue with 66-bit versus 65-bit, please let me know. I do not think it is a "pervasive error" of any sort.

(drr) Additional examples (not necessarily exhaustive): Pg 29 ln 10, ln 15, 20, …

Pg 29 ln 33 Where did the phrase "begins with the 65-bit long Start of Burst delimiter (burstStart constant, see TBD)" come from? As far as I recall no one has discussed the actual length of a burst marker yet. If this refers to a burst marker please rephrase the para as follows: "The CNU burst transmission begins with a {TBD}-bit long Start of Burst delimiter (burstStart, see TBD) which facilitates the detection of the start of an incoming data burst. When received at the CLT, this delimiter simplifies in FEC codeword alignment, even in the presence of bit errors. The Start of Burst delimiter is not part of the first FEC codeword." Note that in Orlando we indicated a Burst Marker codes to the profile and can therefore not be a constant.

 [mh0926] Let me try to deconstruct this aggregate of comments.

As a first order approximation, I think it is only fair to assume that burst markers will be multiples of 65-bit or else we'd have to deal with additional PCS jitter without any need. If you're concerned that we have not agreed whether it is 1x65, 2x65 or how many blocks we need, I'd suggest we look into what 10G-EPON selected (length-wise) which was proven to work fine at 10^-3 BER pre-FEC. Only if evidence is collected that 65-bit marker is insufficient, we should go and extend its size.

The notion of profiles remains pretty much in the air, and my focus right now is on bring first draft text for further development.

(drr) Without some justification I cannot agree to your first order approximation. I see no connection between PCS jitter and burst marker size, a fixed delay (fixed size) introduces not jitter. Please change to TBD. The fact that a burst marker codes to a profile has been approved by motion #13 in Orlando it is therefore a variable.

Pg 29 ln 38 Where did this "65-bit long FEC Selector delimiter" originate? As far as I recall no one has proposed such a beast. Please strike this para. Also remove the field from Fig 101-1.

[mh0926] You're welcome to treat this "beast" then as a proposal. Given that this contribution will come with a comment on D0.2, it carries the same weight as a technical proposal of any sort. If the need for it is unclear, I will be happy to prepare one slide with 2 sentences on it to explain why we need it.

(drr) Please see the presentation Hesham gave in Victoria on FEC detection. This is not needed and only bulks up US overhead.

Pg 29 ln 42 please change the "65-bits long" to "{TBD} long"

Pg 31 ln 1 – Is there really any fundamental difference between the US & DS FEC encoders? It seems to me that it would be much easier to describe the FEC encoder/decoder agnostic of direction and location rather than describe the same encoder twice and the same decoder twice with the inherent risk of more errors. Can these be consolideated into one encoder section and one decoder section? All the constant and variables are the same as those in Hajduczenia_3bn_04_1113.pdf and shouldn't be repeated in this section.

[mh0926] These will become one and the same, essentially. For now, I will remove all SDs and associated variables / constants to avoid from further confusing you. My hope was that just following the subclause numbers it was clear to see that these are the same SDs and definitions and that these will be shared between CNU and CLT.

As for making FEC Encoder universal … it is a tempting notion, but I'd rather have these separate for the time being and only merge them (making them universal) when and if the group agrees to details included in this proposal.

(drr) I agree that we should get input from the TF on merging US/DS FEC sections.