IEEE 1914.3/D1.2 corrections

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Background

- List of potential issues to be fixed in the 1914.3/D1.2
64B66B considerations

- See tf3_1609_korhonen_64b66b_1.pdf

- Related issue is also the .lenPack and use of sequence number. Currently these are tightly coupled, which is not good.

- Proposal for alignment (covers both 8b10b and 64b66b, etc):
  - sequence numbering is described/defined by the application (ref. the flexibility orderInfo has in subclause 4.4.4.1) and is not tied to the value in the .lenPack.
  - .lenPack is either octets (structure agnostic) or samples (structure aware).
8.1.8 Ctrl_AxC opCode – draft proposal

Ctrl AxC packets use $\text{opCode}=1$ in the RoE control packet common frame format. The payload contains CPRI stream Ctrl_AxC control words according to the \texttt{CPRI11.ctrl.axc_vsd} container definition as described in sub-clause 7.2.8. The size of the extracted control word is determined by the CPRI option in use (i.e., line bit rate, see CPRI specification V7.0 Table 3). The $\text{cwStart}$ shall be within range from 4 to 7. The sum of $\text{cwStart}$ and $\text{cwSize}$ shall be less than 8.

The Ctrl AxC packet’s common RoE header $\text{flowID}$ gets populated according to \texttt{CPRI11.ctrl.axc_vsd} container $\text{flowID}$ definition. The $\text{orderInfo}$ field shall contain a sequence number.

The control packet’s payload is populated in a network byte order as extracted by the “control process” (see sub-clause 7.2.3 and illustrated in CPRI specification V7.0 Figure 16).

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<td>payload containing Ctrl_AxC control words,</td>
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\textbf{Figure 1} – Ctrl_AxC control packet format
Ctrl AxC packets use opCode=2 in the RoE control packet common frame format. The payload contains CPRI stream VSD control words according to the CPRI11.ctrl.axc_vsd container definition as described in sub-clause 7.2.8. The size of the extracted control word is determined by the CPRI option in use (i.e., line bit rate, see CPRI specification V7.0 Table 3). The .cwStart shall be within range from 16 to p (the pointer p as defined in CPRI specification V7.0 sub-clause 4.2.7.4). The sum of .cwStart and .cwSize shall be less than p.

The Ctrl AxC packet’s common RoE header flowID gets populated according to CPRI11.ctrl.axc_vsd container .flowID definition. The orderInfo field shall contain a sequence number.

The control packet’s payload is populated in a network byte order as extracted by the “control process” (see sub-clause 7.2.3 and illustrated in CPRI specification V7.0 Figure 16).

![Figure 1 – VSD control packet format](image)
Control Packet sequence numbering

- Subclause 8.1.3 states: “See subclause 4.4.4. Note that sequence numbers may behave differently between RoE control packets and their associated RoE data packet flows. For example the .seqNumPMax and .seqNumPVal can be different for RoE control packets and data packets. The RoE control packet opCode specification shall describe the exact sequence number handling.”

- There is no opCode specific text yet. To be added.

- Proposal: the management entity that brings up the connection has to program the sequence number parameters.
Container description for CPRI control words

- \texttt{.cwNum} and \texttt{.cwSize} are redundant.
  - Proposal: remove \texttt{.cwNum} and correct the text accordingly

- \texttt{.cwSize} is from 1 to 64 while it should be from 0 to 63. Correction proposal:
  - "The \texttt{.cwStart} defines the start of sub-channel (Ns) and has the valid range from 0 to 63. The \texttt{.cwSize} defines the number of extracted sub-channels minus one and the valid range is from 0 to 63. The mask defined by \texttt{.cwSel} applies to the "area" defined by the \texttt{.cwStart} and \texttt{.cwSize}, The specific mapper definitions may have more specific restriction to the ranges."
  - "Number of consecutive sub-channels \texttt{minus one} allocated for the control data. Valid range is from 0 to 63."
Structure agnostic mapper orderInfo handling

• Current text says: “The 32-bit orderInfo field shall be used as a sequence number, with successive packets increasing the sequence number by 1” – which is wrong.

• The baseline proposal tf3_1606_korhonen_sof_2.pdf added support for 1:2:24:5 timestamp. See tf3_1606_ballot_1904_3-1.pdf comment #45.
PICS

- Work-in-progress (see draft). Full contribution will be handled during October f2f meeting.