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4
5  DATE: 20-Sep-2023
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9
10 REQUESTED REVISION:
11   STANDARD: 802.3ck-2022
12   CLAUSE NUMBER: 161
13   CLAUSE TITLE: Reed-Solomon forward error correction codeword-
14                  interleaved (RS-FEC-Int) sublayer for 100GBASE-P PHYs
15
16 PROPOSED REVISION TEXT:
17 Replace the 3rd paragraph in 161.5.3.8 and associated expression with:
18
19 The matrix am_rxpayloads is derived from am_rxmapped by the following
20 expression:
21
22 for all k=0 to 31
23   for all j=0 to 1
24     if even(k)
25       am_rxpayloads<2j,10k+9:10k> = am_rxmapped<40k+20j+9:40k+20j>
26       am_rxpayloads<2j+1,10k+9:10k> = am_rxmapped<40k+20j+19:40k+20j+10>
27     else
28       am_rxpayloads<2j+1,10k+9:10k> = am_rxmapped<40k+20j+9:40k+20j>
29       am_rxpayloads<2j,10k+9:10k> = am_rxmapped<40k+20j+19:40k+20j+10>
30
31 RATIONALE FOR REVISION:
32
33 In Section 161.5.3.8 the process provided to map am_rxmapped to
34 am_rxpayloads is not the inverse of the method used in the transmit
35 section. In 161.5.2.6.1 the transmitter does
36
37 for all k=0 to 31
38   for all j=0 to 1
39     if even(k)
40       am_txmapped<40k+20j+9:40k+20j> = am_txpayloads<2j,10k+9:10k>
41       am_txmapped<40k+20j+19:40k+20j+10> = am_txpayloads<2j+1,10k+9:10k>
42     else
43       am_txmapped<40k+20j+9:40k+20j> = am_txpayloads<2j+1,10k+9:10k>
44       am_txmapped<40k+20j+19:40k+20j+10> = am_txpayloads<2j,10k+9:10k>
45
46 However, in 161.5.3.8 the method for processing the data is defined as:
47
48 Given i=0 to 3, k=0 to 31, and y=i+4k, am_rxpayloads may be derived from
49 am_rxmapped per the following expression:
50
51   am_rxpayloads<i, (10k+9):10k> = am_rxmapped<(10y+9):10y>
52

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1  IMPACT ON EXISTING NETWORKS:
2
3  This means the BIP fields that are received at the CL161 input do not
4  end up in the same spot on the output side.  This will cause all
5  BIP error monitors to saturate since BIP3 != ~BIP7 on all lanes.
6
7  +-----+
8  | Please attach supporting material, if any
9  | Submit to:-   David Law, Chair IEEE 802.3
10 | and copy:-    Adam Healey, Vice-Chair IEEE 802.3
11 |
12 | At:-          E-Mail: stds-802-3-maint-req@ieee.org
13 |
14 |               +----- For official use -----+
15 |               | REV REQ NUMBER: 1417
16 |               | DATE RECEIVED: 20 September 2023
17 |               | EDITORIAL/TECHNICAL
18 |               | ACCEPTED/DENIED
19 |               | BALLOT REQ'D   YES/NO
20 |               | COMMENTS:
21 |               +-----+
22 | For information about this Revision Request see -
23 | http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1417
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