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2 | REVISION REQUEST |
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4 DATE: 21 July 2020
5 NAME: Glen Kramer
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8
9 REQUESTED REVISION:
10 STANDARD: IEEE Std 802.3ca-2020
11 CLAUSE NUMBER: 142.3.5.1
12 CLAUSE TITLE: Constants
13
14 PROPOSED REVISION TEXT:
15 In the definition of constant EBD257, replace the text
16 "Value: 0x00"
17 with the text
18 "Value: Bit 0 followed by
19 0x0F-10-(01-EE-E8-02-D3-CA)₃-(EB-D2-57)₄
20 NOTE-- The transmission bit order is as defined for SBD257
21 (see 142.1.3.1)"
22
23 (Note to the editor: The text between _{and} is formatted
24 as a subscript. This notation is documented in 142.1.1.2.)
25
26 RATIONALE FOR REVISION:
27 Currently, the end-of-burst delimiter (EBD) is specified as a sequence
28 of 257 zero bits. The existing EPON OLT receivers continuously adjust
29 the optical gain. The gain adjustment interval is very short, thus
30 when a continuous sequence of 257 zero bits is received, the receiver
31 quickly (within the first 100~150 bits) increases the gain. This
32 results in the OLT receiver presenting essentially the amplified
33 noise at its electrical output. In turn, this leads to a failure of a
34 compliant PCS implementation to detect the end-of-burst delimiter.
35
36 The proposed new delimiter is chosen for the following qualities:
37 -- It is maximally balanced (128 ones and 129 zeros)
38 -- It cannot occur in a normally transcoded 257-bit sequence
39 (the first five bits after being descrambled are 0-1-1-1-1)
40 -- It has a lower autocorrelation compared to simply repeating the
41 same octet or word. This improves detectability.
42
43
44 IMPACT ON EXISTING NETWORKS:
45 This change impacts the interoperability between the OLT and ONUs.
46 But given that the approval of the IEE 802.3ca-2020 amendment took
47 place very recently, there are no existing deployments of this
48 technology, and therefore there is no impact on existing networks.
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2 |Please attach supporting material, if any
3 |Submit to:- David Law, Chair IEEE 802.3
4 |and copy:- Adam Healey, Vice-Chair IEEE 802.3
5 |
6 |At:- E-Mail: stds-802-3-maint-req@ieee.org
7 |
8 | +----- For official use -----+
9 | | REV REQ NUMBER: 1366
10 | | DATE RECEIVED: 21 July 2020
11 | | EDITORIAL/TECHNICAL
12 | | ACCEPTED/DENIED
13 | | BALLOT REQ'D YES/NO
14 | | COMMENTS:
15 +-----+
16 | For information about this Revision Request see -
17 | http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1366
18 +-----+
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