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2 | 8802-3/802.3 REVISION REQUEST |
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4 DATE: July 28, 2016
5 NAME: Adee Ran
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8
9 REQUESTED REVISION:
10 STANDARD: 802.3
11 CLAUSE NUMBER: 73.6.4
12 CLAUSE TITLE: Technology Ability Field
13
14 PROPOSED REVISION TEXT:
15 Replace the third paragraph, which, as amended by 802.3by-2016, reads:
16
17 "For 25 Gb/s operation the same bits are used to advertise backplane and
18 copper cable assembly operation. For other speeds, a PHY for operation
19 over an electrical backplane (e.g., 1000BASE-KX, 10GBASE-KX4,
20 10GBASE-KR, 40GBASE-KR4, 100GBASE-KP4, 100GBASE-KR4) shall not be
21 advertised simultaneously with a PHY for operation over a copper cable
22 assembly (e.g., 40GBASE-CR4, 100GBASE-CR10, 100GBASE-CR4)."
23
24 With the following note:
25 "NOTE--Previous editions of this standard prohibited advertisement of
26 PHYs that support operation over electrical backplanes with PHYs that
27 support operation over copper cable assemblies."
28
29 In subclause 73.11.4.3, delete PICS item LE18.
30
31 RATIONALE FOR REVISION:
32 The 802.3by amendment removed the words "as the MDI and physical
33 medium are different" from the end of this paragraph.
34
35 With the PHYs added by 802.3by specifically advertising backplane and
36 copper cable PHYs together (on the same bits), the limitation doesn't
37 seem to make sense now, nor serve any purpose, since a PHY can know the
38 medium it is connected to by other means.
39
40 The current text disallows some useful usage models, such as negotiating
41 10GBASE-KR or 1000BASE-KX over copper cables, e.g. as fallback modes for
42 either 40GBASE-CR4 or 25GBASE-CR. There are no copper cable ability bits
43 for these lower rates, but in practice 10GBASE-KR or 1000BASE-KX PHYs
44 may be able to operate over copper cables too.
45
46 10GBASE-KR provides the benefits of straightforward link startup through
47 auto-negotiation and training as well as optional FEC. The alternative
48 to using 10GBASE-KR over copper cables is to use non-standard direct
49 attach cables for which these features are not defined. However, since
50 the advertisement is currently not allowed, products may be forced to
51 support this non-standard mode.
52
53 This kind of advertisement seems to be used in practice in several
54 products even though it is normatively prohibited. There is no harm in
55 allowing it, and it can help proliferation of Ethernet.
56
57 See also comment #194 against 802.3by D2.0.

1 IMPACT ON EXISTING NETWORKS:
2
3 Existing networks that comply with the current AN requirements would
4 still be compliant and would not be affected.
5
6 Based on the clause 73 resolution rules, compliant existing or new
7 devices would not experience any interoperability issues with partners
8 that use this new advertisement.
9
10 Based on known practice, no interoperability issues are expected.

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12 |Please attach supporting material, if any
13 |Submit to:- David Law, Chair IEEE 802.3
14 |and copy:- Adam Healey, Vice-Chair IEEE 802.3
15 |
16 |At:- E-Mail: stds-802-3-maint-req@ieee.org
17 |
18 |
19 | +----- For official 802.3 use -----+
20 | | REV REQ NUMBER: 1283 |
21 | | DATE RECEIVED: 9th November 2016 |
22 | | EDITORIAL/TECHNICAL |
23 | | ACCEPTED/DENIED |
24 | | BALLOT REQ'D YES/NO |
25 | | COMMENTS: |
26 +-----+
27 | For information about this Revision Request see -
28 | http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1283
29 +-----+
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