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|                  8802-3/802.3 REVISION REQUEST 1266               |
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DATE: 7/31/14
NAME: Brett McClellan
COMPANY/AFFILIATION: Marvell Semiconductor
E-MAIL: bmc@marvell.com

REQUESTED REVISION:
   STANDARD: 802.3-2012
   CLAUSE NUMBER: 55.3.4
   CLAUSE TITLE: PMA training side-stream scrambler polynomials
PROPOSED REVISION TEXT:

Remove the unused optional periodic training sequence in the 10GBASE-T
specification.

45.2.7.10.5 LD PMA training reset request (7.32.2)
add the following text:
This bit is not defined for 10GBASE-T but reserved for future use.

45.2.7.11.7 Link partner PMA training reset request (7.33.9)
add the following text:
This bit is not defined for 10GBASE-T but reserved for future use.

55.3.4 PMA training side-stream scrambler polynomials
remove text:
"Moreover during Auto-Negotiation each transceiver may request the
remote transceiver to reinitialize the values of its scrambler state
after every 16384 symbol periods, to generate a periodically repeating
pattern with repetition period 16384. The initial 33-bit values of the
scrambler state shall be generated by combining 0x39A422 for the 22 MSBs
and random value SB10-SB0 from Table 55-10 generated by the local device
for the 11 LSBs as shown in Figure 55-13."

Figure 55-13
remove text from "n mod 16384 = 0" through "else:"

55.3.5.3 Refresh period signaling
delete the text:
"The training sequence without periodic reinitialization described in
55.3.4 shall be used during the LPI mode, with the scramblers
free-running from PCS Reset. If scrambler reinitialization is
used for normal training, it shall be disabled and the scramblers shall
begin free-running when the PHY Control state diagram enters the
PCS_Test state."

Table 55-15
under "U20 LD PMA training reset request"
add the following text:
"This bit is not defined for 10GBASE-T but reserved for future use."

55.12.3 Physical Coding Sublayer (PCS)
delete the line items:
PCT19 PMA training scrambler reset
PCT31 Disable scrambler reinitialization

under "PCT30 LPI scrambler"
delete the text:
"The training sequence without periodic re-initialization
described in 55.3.5 shall be used"

RATIONALE FOR REVISION:

This optional periodic training sequence for 10GBASE-T training was added to the specification based on a vendor proposal:
http://www.ieee802.org/3/an/public/nov04/ungerboeck_1_1104.pdf slide 23
The same vendor recently reported that the periodic training sequence is not used by any 10GBASE-T device and is not suitable for adapting equalizer and canceller coefficients.
http://www.ieee802.org/3/bq/public/jul14/souvignier_3bq_01_0714.pdf slide 3

If requested by the link partner a local device is required to transmit the periodic training sequence resulting in poor adaptation of echo and NEXT cancellers at the local device.

Eliminating the unused optional periodic training sequence will simplify compliance to the 10GBASE-T specification.
Further, it is possible or even likely that existing 10GBASE-T network devices will not be interoperable should a new device request the optional periodic training sequence.

IMPACT ON EXISTING NETWORKS:
No impact to existing networks and will safeguard against future interoperability issues.


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| Please attach supporting material, if any                           |
| Submit to:-   David Law, Chair IEEE 802.3                           |
|  and copy:-   Adam Healey, Vice-Chair IEEE 802.3                    |
|                                                                     |
| At:- E-Mail: stds-802-3-maint-req@ieee.org                          |
|                                                                     |
|              +------- For official 802.3 use -----------+           |
|              | REV REQ NUMBER: 1266                      |           |
|              | DATE RECEIVED: 5th August, 2014           |           |
|              | EDITORIAL/TECHNICAL                       |           |
|              | ACCEPTED/DENIED                           |           |
|              | BALLOT REQ'D    YES/NO                    |           |
|              | COMMENTS:                                 |           |
+-------------+-------------------------------------------+-----------+
| For information about this Revision Request see -                   |
|http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1266|
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