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9  REQUESTED REVISION:
10 STANDARD: IEEE Std 802.3
11 CLAUSE NUMBER: 149 and 165
12 CLAUSE TITLE: PHY Control state diagram
13
14 PROPOSED REVISION TEXT:
15 In Figure 149-32 (PHY Control state diagram), the exit conditions
16 from the COUNTDOWN and TX_SWITCH states may become true at the same
17 time.
18
19 The transition from COUNTDOWN to TX_SWITCH is currently defined as:
20
21     loc_countdown_done * infofield_complete
22
23 The transition from TX_SWITCH to PCS_TEST is currently defined as:
24
25     rem_countdown_done
26
27 However, the condition:
28
29     loc_rcvr_status = OK
30
31 is only evaluated on alternate return transitions. If the exit
32 conditions for COUNTDOWN and TX_SWITCH become true at the same
33 time, the diagram does not clearly specify that receiver status
34 must be valid before progressing to PCS_TEST.
35
36 Modify the transition condition from TX_SWITCH to PCS_TEST to also
37 include the receiver status check.
38
39 Change the condition:
40
41     rem_countdown_done
42
43 to:
44
45     rem_countdown_done * loc_rcvr_status = OK
46
47 The same correction should also be applied to the equivalent PHY
48 control state diagram in Figure 165-22 in Clause 165.
49
50 RATIONALE FOR REVISION:
51 In the current diagrams the exit conditions for COUNTDOWN and
52 TX_SWITCH may be satisfied simultaneously. Because the condition
53 loc_rcvr_status = OK is not evaluated on the forward transition
54 from TX_SWITCH to PCS_TEST, the transition behavior may be
55 ambiguous.
56
57

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1 Adding loc_rcvr_status = OK to this transition ensures that
2 receiver status is validated before progressing to PCS_TEST and
3 aligns this transition with the receiver-status checks already
4 present on other paths in the state diagram.

5
6 Applying the same modification to the Clause 165 state diagram
7 ensures consistent behavior across PHY control state diagrams.

8
9 IMPACT ON EXISTING NETWORKS:

10
11 This change clarifies the transition conditions in the state
12 diagram without modifying the intended PHY behavior. Existing
13 implementations that already verify receiver status will remain
14 compliant. The change removes ambiguity and improves specification
15 clarity.

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17 +-----+
18 |Please attach supporting material, if any
19 |Submit to:- David Law, Chair IEEE 802.3
20 |and copy:- Adam Healey, Vice-Chair IEEE 802.3
21 |
22 |At:- E-Mail: stds-802-3-maint-req@ieee.org
23 |
24 | +----- For official use -----+
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32 | For information about this Revision Request see -
33 |http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1497 |
34 +-----+