DATE: 22 September 2023
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REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2022
CLAUSE NUMBER: 99.4.7.7
CLAUSE TITLE: State diagrams

PROPOSED REVISION TEXT:
Add a pRX_DV(TRUE) function call after the DISCARD function call in the DISCARD_KEEP_S state.

RATIONALE FOR REVISION:
If the Receive Processing state diagram (see Figure 99-6) is in the CHECK FOR RESUME state, it is waiting for the next mPacket of a preempted packet. If, however, it receives a preemptable packet start (SMD-S) instead, and the keepSafterD variable is true, it will transition to the DISCARD_KEEP_S state. The keepSafterD variable set true indicates the implementation can process the start of a packet while discarding an errored packet.

Entering the DISCARD_KEEP_S state will call the DISCARD function which forces an FCS error (issues 32 PLS_DATA.indication to the pMAC to transfer an invalid FCS value) and then calls the pRX_DV function with the parameter FALSE. This will issue a PLS_DATA_VALID.indication primitive with the DATA_VALID_STATUS parameter set to DATA_NOT_VALID to the pMAC which will cause the pMAC to terminate the incoming packet and issue a MA-DATA.indication to the MAC client.

The state diagram will then transition to the REPLACE_SMD state through the arrow to 'A' out of the DISCARD_KEEP_S state. The REPLACE_SMD state has the action pRX_DATA(SFD). This will call the pRX_DATA function with the parameter SFD issuing eight PLS_DATA.indication primitives to the pMAC to transfer an SFD.

The problem is that while a PLS_DATA_VALID.indication primitive with the DATA_VALID_STATUS parameter set to DATA_NOT_VALID was issues to the MAC due to the DISCARD function called in the DISCARD_KEEP_S state, there is no subsequent PLS_DATA_VALID.indication primitive issued with the DATA_VALID_STATUS parameter set to DATA_VALID. The pMAC will therefore not receive the SFD or the subsequent content of the packet.
IMPACT ON EXISTING NETWORKS:

None. An implementation obeying IEEE Std 802.3-2022 Figure 99-6 would not receive the start of a packet while discarding an errored packet, even if it set the keepSafterD variable is set to TRUE (which is meant to indicate the implementation can process the start of a packet while discarding an errored packet). With this change, an implementation would be able to receive the start of a packet while discarding an errored packet when the keepSafterD variable is set to TRUE. Since, however, the ability to process the start of a packet while discarding an errored packet and implementation option, this change will have no impact on existing networks.

|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|

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REV REQ NUMBER: 1419
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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#REQ1419

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