OAM Status Byte Update Proposal for OAM<10><0>

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IEEE802.3ch Interim

Proposed change to OAM Symbol 10

D9	D8	D7	D6	D5	D4	D3	D2	D1	D0
0	1	Status Valid	Power Supply warning	PHY internal temp warning	No MAC messages warning	Degraded link segment	Pair swapped	Clear REC	~~Reserved~~ REC Cleared

- There is no way for the Link Partner to indicate when the REC has been cleared as requested in D1.
- The receiving device may not read every OAM message, received about every 3.8 us. It is more likely to be read once per loop, e.g. 5 to 20 ms.
- Define D0 as “REC Cleared”
- Operation
  - Device A sets Clear REC to “1” to request the Link Partner, Device B, reset the REC counter in Symbols 12&13 to 0
  - Device B Resets its Symbol 12/13 REC Counter to 0 and sets “REC Cleared” to “1”
  - Device A will change “Clear REC” back to “0” under micro control, which may be delayed.
  - Device B will continue to increment REC<15:0> and will only clear when “Clear REC” transitions from “0” to “1”.

Behavior of REC

1. Link status transitions from down to up, Node A sets Clear REC to 0, REC<15:0> to 0x000 and REC Cleared to 0.
2. Node B sets Clear REC to 0, REC<15:0> to 0x000 and REC Cleared to 0
3. Node A and Node B increment their REC<15:0> based on the errors they detect
4. Node A sets Clear REC to 1 through MDIO command
5. Node B PHY clears REC<15:0> (=> 0x000) and sets REC Cleared to 1
6. While Node A sends Clear REC as 1, Node B increments REC<15:0> when errors are detected and continues to send REC Cleared as 1
7. Node A sends Clear REC as 0 based on MDIO command, Node B continues to increment REC<15:0> when errors are detected and sends REC Cleared as 0
8. Steps 3 to 7 continue while Link is maintained