Interpretation Number: 05-03/05
Topic: OAM Discovery
Relevant Clause: 57.3.2.1 and 57.3.2.1.1
Classification: Possible defect

Interpretation Request

Interpretation for the following sections:

Clause 57 Operations, Administration, and Maintenance (OAM), subclauses 57.3.2.1 OAM Discovery, 57.3.2.1.1 Fault state, and Figure 57-5 – OAM Discovery state diagram

Interpretation for the following condition:

When local_lost_link_timer_done is true an OAM capable device is required to return to the FAULT state. Due to the nature of this global transition, the device will remain in this state until the local_lost_link_timer is restarted. However local_lost_link_timer is restarted only on the reception of an OAMPDU. This presents an issue because the reason the device is in the FAULT state to begin with is that it had not received an OAMPDU from its remote partner for 5 seconds. So now the device remains stuck in the FAULT state.

Once the device is stuck in the FAULT state, it can no longer transmit OAMPDUs thanks to the "ELSE local_pdu <= RX_INFO" statement. The remote OAM device will similarly fall into the FAULT state because its local_lost_link_timer_done will become true after 5 seconds. Now both devices are trapped in the FAULT state with no ability to escape because neither is allowed to transmit an OAMPDU.

Is this interpretation correct? Or does local_lost_link_timer automatically reset itself once local_lost_link_timer_done is true. If it doesn't it would seem to me that if local_lost_link_timer was somehow reset after its expiration (perhaps in the FAULT state) that the issue would cease to exist. The device would then have 5 seconds to drop into the ACTIVE_SEND_LOCAL or PASSIVE_WAIT state and attempt to reestablish a connection with the remote device before falling into the FAULT state again.

Interpretation for IEEE Std 802.3ah-2004

Concerns have been raised about this issue that are being considered in the IEEE P802.3REVam revision.