

# **Giving 10GE Unidirectional Support**

**R0-0**

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**Ben Brown - AMCC**

**Eric Lynskey – UNH-IOL**

# Problem

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- **10GE needs modification to support the transmission of OAM Remote Fault when the receiver link is not OK**

# Changes (page 1)

- **Change the second paragraph of 46.3.4 to read:**

Sublayers within the PHY are capable of detecting faults that render a link unreliable for communication. Upon recognition of a fault condition a PHY sublayer indicates Local Fault status on the data path. When this Local Fault status reaches an RS, the RS tests the unidirectional oam enable variable. If this variable is FALSE, the RS stops sending MAC data, and continuously generates a Remote Fault status on the transmit data path (possibly truncating a MAC frame being transmitted). If this variable is TRUE, the RS continues to allow the transmission of MAC data but replaces all IPG with a Remote Fault status. When Remote Fault status is received by an RS, the RS tests the unidirectional oam enable variable. If this variable is FALSE, the RS stops sending MAC data, and continuously generates Idle control characters. If this variable is TRUE, the RS continues to allow the transmission of MAC data. When the RS no longer receives fault status messages, it returns to normal operation, sending MAC data.

# Changes (page 2)

- **Add variable to 46.3.4.2**

**unidirectional\_oam\_enable**

**Controls the enabling and disabling of unidirectional OAM capability.**

# Changes (page 3)

- Change 46.3.4.3 bullets to read

- b) **link\_fault = Local Fault**

- If unidirectional\_oam\_enable=FALSE, the RS shall continuously generate Remote Fault Sequence ordered\_sets.

- If unidirectional\_oam\_enable=TRUE, the RS shall send MAC frames as requested through the PLS service interface. In the absence of MAC frames, the RS shall generate Remote Fault Sequence ordered\_sets.

- c) **link\_fault = Remote Fault**

- If unidirectional\_oam\_enable=FALSE, the RS shall continuously generate Idle control characters.

- If unidirectional\_oam\_enable=TRUE, the RS shall send MAC frames as requested through the PLS service interface. In the absence of MAC frames, the RS shall generate Idle control characters.

# Exceptions

- **This proposal is already broken in regards to Clause 49.**
- **There is no 64B/66B code space for a T0, T1, T2, T3 followed immediately by an O column.**
- **This will not be addressed in D1.4 other than through the addition of an editor's note.**
- **A solicitation for other issues will be made in this same note.**