Interpretation Number: 3-11/02 (1000BASE-T Auto-crossover)
Topic: 1000BASE-T Auto-crossover
Relevant Clause: 40.4.4
Classification: Defect

Interpretation Request

I went through the Auto-Crossover state Machine (MDI/MDIX) of the IEEE std 802.3ab-1999 in page 62.

I found that nothing prevent the switching form MDI to MDIX or vice-versa when the link becomes up (Pass).

This is due to the fact that T_pulse becomes false when the link is up (AN stop transmitting FLPs) and Link_det becomes false as well because the link_status is equal to OK (not READY). In order to lock the MDI/MDIX to the state defined before the link is UP, I believe that Link_Det variable should be redefined to include link_status = OK which as follow:

Link_Det : This variable indicates linkpulse = true or Link_status = READY or OK (OK not stated in the specs) has occurred at the receiver since the last time sample_timer has been started.

Interpretation for IEEE std 802.3-2002

This represents a conflict within the standard.

A change request will be generated to resolve the conflict.