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LIAISON STATEMENT

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Title: Interworking of G.984 and 802.3av standards systems

LIAISON STATEMENT

To: **IEEE 802.3 Working group**

Approval: **Agreed to at Q2/15 meeting (Stockholm, 26 – 27 June 2008)**

For: **Action**

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The work plan for Q2/15 in the next study period (2009-2012) includes as one of its major objectives the standardization of the next generation of PON systems. Consequently, the Q2/15 membership has been watching the progress of the 10Gbit/s Ethernet PON work in the 802.3av task force very closely. At this point, the exact makeup of the next generation ITU PON standards is still to be defined, but there is interest in using the 802.3av system as a part of the next generation PON. This could be accomplished by using the specifications in the IEEE standard as a basic transport, and then describing certain higher layer functions in a corresponding ITU recommendation. These functions could include PON protection, dynamic bandwidth allocation, ONU management, and data encryption.

We would like to suggest that the current work in 802.3av consider this possibility, and examine what could be done to make the two standard systems work together more smoothly. Because we expect the interworking to occur as a layered network, the interaction between the standards should be limited to only a few service interfaces. So some consideration should be given to what those interfaces should be. A few illustrative examples are given below.

PLOAM channel: In the G.984 and G.983 series, a physical layer operations administration and management channel is defined. This channel is analogous to the MAC control MPCP message channel in the 802.3av system. Both of these message channels handle the basic activation, ranging, and TDMA control of the PON system. However, the PLOAM channel also carries additional messages related to protection switching, low-level performance monitoring, and management channel set-up. It would be useful if the MPCP message channel could be augmented to be able to carry these other message types.

OMCI channel: In the G.984 and G.983 series, an ONU management and configuration interface is specified. This is carried over a dedicated point-to-point channel from the OLT management process to the ONU management process. In the case of G-PON, this is a special PLOAM-configured GEM port channel. It would be useful if a parallel channel could be defined in the 802.3av system. If this was done, then the huge body of OMCI work could be applied almost directly to EPON systems.

In conclusion, we would encourage the exploration of these and other interworking interfaces between the IEEE and ITU PON standards. Given the development schedule of 802.3av, the priority should be given to scoping the necessary service interfaces that 10G EPON will need to support the ITU PON functionalities, and establishing these in the draft standard. The members of Q2/15 look forward to a continued communication with 802.3 on this matter. Thank you for your attention and support.

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