



Question(s): 2/15**Source:** ITU-T SG15**Title:** LS to IEEE 802.3 Working Group: Request for feedback to the draft Amendment of G.985 “100 Mbit/s point-to-point Ethernet based optical access system”

LIAISON STATEMENT**To:** IEEE 802.3 Working Group**Approval:** Agreed to at SG15 meeting February 2008**For:** Comment**Deadline:** May 2008

Contact: Dave Faulkner
BT
U.K.
Tel: +44 1473 642085
Fax: +44 1473 646445
Email: dave.faulkner@bt.com

Contact: Frank Effenberger
Huawei Tech.
China
Tel: +1 908 670 3889
Fax:
Email: frank.effenberger@ties.itu.int

Contact: Junichi Kani
NTT
Japan
Tel: +81-43-211-3262
Fax: +81-43-211-8875
Email: kani.junichi@ansl.ntt.co.jp

Contact: Fabrice Bourgart
France Telecom
France
Tel: +33-2 96 05 11 26
Fax:
Email: fabrice.bourgart@orange-ftgroup.com

Request for feedback on the draft Amendment of G.985 “100 Mbit/s point-to-point Ethernet based optical access system”**Introduction**

As optical access networks (OANs) have become widespread, network operators have started to identify many issues to operate and maintain them with best stability and assurance. One of the big issues among them is an access-service outage due to mis-handling and mis-insertion of a wrong type of optical network termination/unit (ONT/U). ITU-T Study Group 15 is considering making an Amendment to the ITU-T Recommendation G.985 “100 Mbit/s point-to-point Ethernet based optical access system” to help address this issue. Because this Recommendation is closely related to the Ethernet-in-the-First-Mile specification developed by

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IEEE 802.3ah, this liaison statement introduces this activity and requests feedback from the IEEE 802.3 Working Group.

Tentative agreement in Question 2 of ITU-T Study Group 15

Network operators use both point-to-point and point-to-multipoint (i.e. PON) OANs depending on the application. One of the big issues to operate and maintain such OANs with assurance is that mis-connecting a point-to-point ONT to a branch of passive optical network (PON) could turn into a service outage in the PON system. Of course there are plural PON standards including IEEE 802.3 (Gigabit-Ethernet Passive Optical Network, so-called GE-PON) and ITU-T G.984 series (G-PON: Gigabit-capable Passive Optical Network) that would benefit from a non intrusive reciprocal working.

In order to address this issue, Question 2 of ITU-T Study Group 15 has tentatively agreed that a "silent start" function is to be introduced in all types of ONTs in ITU-T OAN standards.

The "silent start" function is defined so that an ONT transmitter's power at start-up is inhibited as long as no consistent incoming data is recognized by the receiver. On recovery of "understandable" data by the receiver, the transmitter is enabled to enter a handshaking process with the OLT.

For PON systems, the silent-start function is inherently implemented in ONTs because PON ONTs emit their upstream signals only when they receive grants from the Optical Line Terminal (OLT) located in the central office. Therefore, Q2/15 is primarily considering to revise G.985 "100 Mbit/s point-to-point Ethernet based optical access system".

It is believed that the implementation of this function into chipsets is not difficult, and therefore this is a good approach to improve the operation and maintenance of OANs.

Q2/15 has tentatively agreed to make an Amendment to add the following new section into G.985 and consent it in the ITU-T SG15 plenary meeting in December 2008.

Section 8 – Other requirements

8.1 Silent start function of ONT

The transmitter in the ONT must be initially disabled to avoid disturbing other access systems in case of mis-connection. The ONT shall enable the transmitter to enter a handshaking process with OLT only after confirming that the frame structure and/or the line coding of the received downstream signal are matched with those that the ONT complies with.

When the connection between ONT and OLT is disabled, the ONT shall return to the initial state in which the transmitter is disabled.

Conclusion

Q2/15 would appreciate any feedback from the IEEE 802.3 Working Group on the activity in ITU-T described above because G.985 is closely related to the Ethernet-in-the-First-Mile (EFM) specification of IEEE 802.3 developed by the IEEE 802.3ah Task Force.

Q2/15 would appreciate to receive any response before the Q2/15 interim meeting planned for June 2008.

Links to the latest version of G.985 in force and the corrigendum are given below below:

http://www.itu.int/rec/dologin_pub.asp?lang=e&id=T-REC-G.985-200303-I!!PDF-E&type=items

<http://www.itu.int/rec/T-REC-G.985-200501-I!Cor1/dologin.asp?lang=e&id=T-REC-G.985-200501-I!Cor1!PDF-E&type=items>
