INTERNATIONAL TELECOMMUNICATION UNION

TELECOMMUNICATION STANDARDIZATION SECTOR

STUDY PERIOD 2009-2012

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Question(s): 12/15

LIAISON STATEMENT

Source: ITU-T Study Group 15

Title: Response on G.709 efforts in IETF

LIAISON STATEMENT

For action to: **IETF CCAMP WG**

For comment to:

For information to: **OIF Architecture and Signalling WG**

Approval: **Agreed to at SG15 meeting (Geneva, 31 May – 11 June 2010)**

Deadline: **4 October 2010**

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Q12/15 thanks the IETF for their liaison on the topic of OTN and WSON work under way in IETF.

The Q12 experts have been considering the control plane implications of G.709 (12/2009) and have determined the environment is different from that found in SONET/SDH (G.707) or G.709 (3/2003) networks. This evolution of the OTN contained in G.709 (12/2009) includes:

1) New signal types found in G.709 (12/2009) (e.g. ODU0, ODUflex, use of 1.25G Tributary Slots) to be carried over older networks comprised of G.709 (3/2003) compliant equipment,
2) Extension of the OTN hierarchy to encompass ODU4, supporting 100Gb/s (nominal) links and beyond.
3) Provision for ODU2 and ODU2e to be carried over the same OTU.

The architecture to support this new environment is an important development and is reflected in a new Amendment 2 to G.872 consented in June 2010. In this amendment an ODU path layer may transport a heterogeneous assembly of ODU clients. The heterogeneous multiplexing hierarchy supports various network architectures, including those optimized to minimize stranded capacity, minimize managed entities, support carrier's carrier scenarios, and/or enable ODU0/ODUflex traffic to transit a region of the network that does not support these capabilities.

We request the IETF carefully consider the topology representation used for G.709 (12/2009) networks. We specifically point the IETF to a multi-layer construct called a Transitional Link which was added to G.8080 (2006) through the new Amendment 2, consented in June 2010. The Transitional Link allows for the inter-layer relationships that exist in a multi-layer network topology to be represented for the purposes of performing path computation. This construct is extremely

useful as this allows an edge to be placed in a multi-layer topology graph, showing the relationship between the layers created by multiplexing points (i.e., G.805 adaptation and termination functions). This construct allows a routing function to understand the relationship that exists between different layer networks, and to determine the places where a server layer trail (e.g. a lower layer connection that is terminated) can be established to provide a link able to support a client layer connection.

The ITU would appreciate IETF's consideration of such a uniform approach using transitional links especially for development of routing solutions including OTN networks and would appreciate your comments.

Attach: G.872 Amd.2, G.8080 Amd.2 and G.800 Amd.2 (TD247R1/PLEN, TD279R1/PLEN, TD271R1/PLEN).