



Question(s): 6/15

LIAISON STATEMENT

Source: ITU-T Study Group 15

Title: Lambda Switch Capable Equipment

LIAISON STATEMENT

For information to: IETF CCAMP Working Group

Approval: Agreed to at SG15 meeting (Geneva, 28 September-9 October 2009)

Deadline: -

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Q.6/15 would like to thank IETF's CCAMP Working Group for their Liaison Statements on "ITU-T Recommendation G.697 Parameter Encoding" contained in TD 78 (WP2) and on "WSO*N* Impairment" in TD 96 (GEN).

Q.6/15 understands that IETF's CCAMP WG would like Q.6/15 to verify that the CCAMP WG's understanding of the changes to G.697 with respect to parameter encoding are correct.

As requested Q.6/15 has reviewed the CCAMP document "Generalized Labels for G.694 Lambda-Switching Capable Label Switching Routers":

<http://www.ietf.org/id/draft-ietf-ccamp-gmpls-g-694-lambda-labels-04.txt>,

On the basis of this review Q.6/15 would like to suggest the following modifications:

- Removal of reference to G.694 in title of document;
- Abstract: replace "ITU-T G.694" (which doesn't exist in this form) with "either G.694.1 (DWDM-grid) or G.694.2 (CWDM-grid)". Make equivalent changes elsewhere in the draft where "G.694" (rather than G.694.1 or G.694.2) appears (3 places);
- Clause 3 and Figure 1 in particular: the term "DWDM" (which stands for Dense Wavelength Division Multiplexing) seems to be applied to optical multiplexers/demultiplexers. Q6 suggests that it would be better to refer to these devices as "DWDM multiplexer & demultiplexer";
- Clause 4.1: reference (2 instances) is made to "tables" in G.694.1. It is suggested to replace this by "grids";
- Clause 4.2: the "order" in the IETF wavelength label is currently indicated as: Grid, C.S., reserved, n; Q.6/15 has understood from the meeting on 20 March that there was an agreement to define this as: Grid, C.S., n, reserved, where n is defined to be bits 7 to 22 and bits 23 to 32 are reserved. The latter bit allocation is the one that has been included in draft revised G.697.

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Q.6/15 would also like to draw the attention of IETF's CCAMP WG to the fact that a revision of ITU-T Recommendation G.697 has been consented at this SG15 Plenary Meeting.

With respect to IETF's request contained in TD 96 (GEN), Q.6/15 would like to provide the following remarks on the modelling of 1R, 2R and 3R regenerators in G.680.

- 3R regenerator points are demarcation points in G.680, at which the impairment is “reset” and which separate the end-to-end path into separate optical paths.
- A 1R regenerator is considered by Q6/15 as an (optical) amplifier.
- 2R regenerators have been discussed by Q6/15 but do not feature in Q6/15 Recommendations because, despite the fact that there are many references to them in publications, there are no significant deployments using them. They are never used as “hand-over” points, because there is no known metric for accurately assessing the quality of the signal.

With respect to information for the control-plane, Q.6/15 would like to refer to the different scenarios mutually agreed between Q.6/15 and members of IETF's CCAMP WG at the meeting in Sunnyvale, 20 March 2009. Q.6/15 would like to further point out that there has been no further progress on G.680 since the Sunnyvale meeting. Q.6/15 is therefore not yet able to provide a list of parameters that would be needed for path computation where DWDM line segments are included. Finally Q.6/15 would like to inform IETF's CCAMP WG that at least one organisation has expressed an intent to generate contributions towards revising G.680, addressing the need for a metric to assess the impairments of amplitude and phase of a signal at any point in the transmission fibre.

Q.6/15 is looking forward to continuing the exchange of information with IETF's CCAMP WG on the topics outlined in this Liaison Statement.
