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LIAISON STATEMENT

Source: ITU-T Study Group 15

Title: Comments on draft-ietf-mpls-tp-framework-10 [Ref #015.02]

LIAISON STATEMENT

To: **IETF MPLS WG**

Approval: **Q12/15 (by correspondence)**

For: **Action**

Deadline: **12 April 2010**

Contact: Malcolm Betts
ZTE
P. R. China

Tel: +1 678 534-2542
Email: malcolm.betts@zte.com.cn

Thank you for your liaison statement (Ref # 015.01) requesting a review by the ITU-T of the MPLS-TP framework draft.

The experts of Q.12/15 have reviewed draft-ietf-mpls-tp-framework-10 by correspondence and have some comments and proposed changes shown in the attached marked up draft. We have also identified some major open issues and areas where we request clarification as listed below. These proposals reflect the consensus view of the experts.

Considering the magnitude of these changes we request that we have another opportunity to review the resolution of these and any other comments, before this draft is forwarded for approval.

Major open issues:

Packet insertion at intermediate nodes

The current version of the MPLS-TP OAM framework draft includes an open issue 5 in section 1.2:

"The general framework will describe the mechanism for intermediate nodes to insert packets and each specific framework document (e.g., OAM framework) will describe the usage of this capability on a case-by-case basis. When you provision bw between two end-points you must allow enough bw for any additional traffic, including traffic from MEPs and MIPs."

However text has not been added to the framework draft address this point.

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Tandem Connection Monitoring/PST for PWs

Section 3.14 states:

"Pseudowire segment tunnels are for further study."

Experience with other technologies e.g. SDH has shown that adding TCM at a later stage in the definition of a technology causes the design to be inefficient. At a minimum a high level outline for PW TCM should be provided.

Misconnection between LSPs and PWs

The OAM under development includes a connectivity verification (CV) function, which is intended to detect when two transport paths are misconnected. A label in the stack may represent either a LSP or a PW. Since LSPs and PWs use a different mechanism to identify OAM messages it is not clear how a configuration error or hardware error that causes a misconnection or a merge of a PW and a LSP can be detected.

Some text should be added to describe this issue and provide a high level outline of a solution. The solution should be described in detail in the MPLS-TP OAM framework draft.

QoS mapping in a Path Segment Tunnel

During the review of the OAM Framework the following text was added:

"The PST would use the uniform model of EXP code point copying between sub-layers for diffserv such that the E2E markings and PHB treatment for the transport path was preserved by the PST"

In MPLS-TP the QoS of different layer networks should be independent (therefore the need for pipe and short-pipe models only). However, the PST is a special case and this should be specified as described above. It is suggested that this text be added to section 3.13.

Clarification:

SS-PW over a multi operator LSP:

draft-ietf-mpls-tp-framework-10, section 3.4 "MPLS-TP Native Service" describes the following MPLS-TP architectures:

1. SS-PW (figure 6)
2. MS-PW (figure 7)
3. architecture for Network layer clients (figure 9)

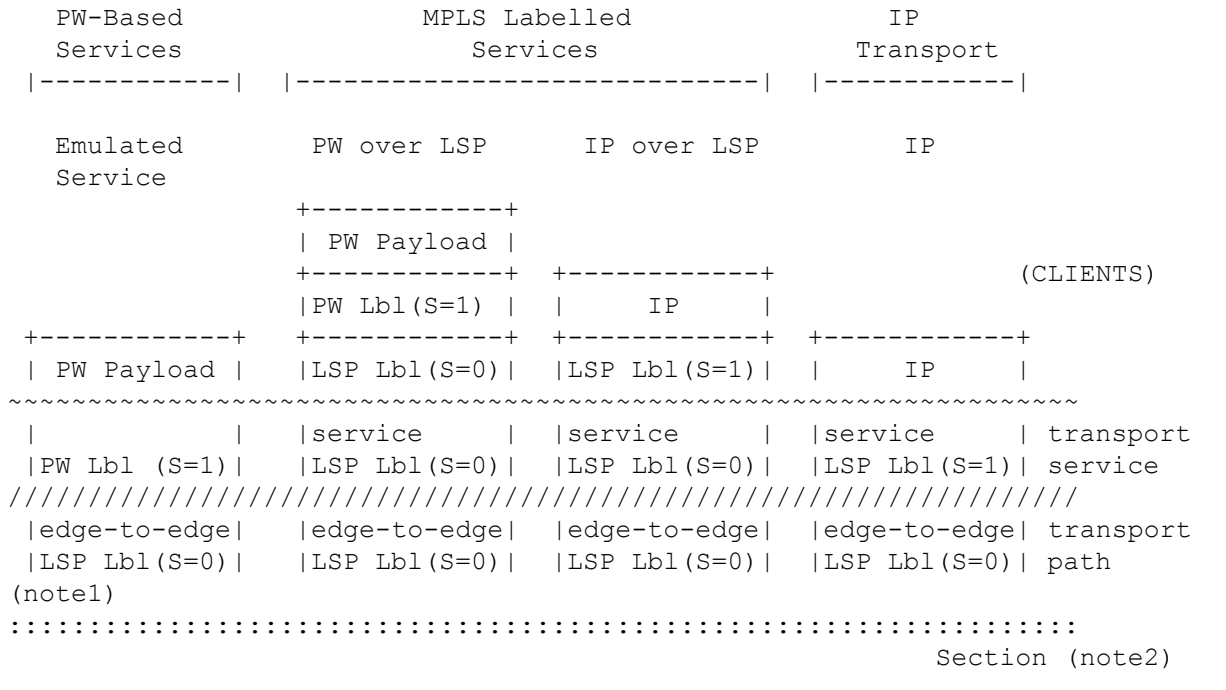
Please confirm that running a SS-PW over an LSP used as transport service layer rather than as transport path layer is allowed. We intend to describe this scenario in G.8110.1, do we need an additional figure in the draft to explicitly support this configuration.

Terminology:

The 4th and 5th paragraphs of section 3.7 it is suggested that LSP, PW and section are for transport paths. In G.8110.1 we intend to map these against the three types of transport paths:

- transport service layer transport path
- transport path layer transport path
- section layer transport path.

This would result in the expansion of Figure 5 as shown below:



~~~~~~~~~~~ denotes Client <-> MPLS-TP layer boundary
/////////// denotes transport service <-> transport path layer boundary
:::::::::: denotes transport path <-> section layer boundary

Note 1 - The transport path layer may be omitted on e.g. access links connecting a T-PE with a S-PE. Transport path layer is present between PEs at the edge of e.g. metro and core domains.

Note 2 - The section layer transport path is typically unlabelled.

Note that in the PW over LSP case the client may omit its LSP Label if penultimate hop popping has been agreed with its peer

Note 4 - Each layer may have more label stack entry headers then illustrated; additional label stack entry headers are present when the transport path in either of the three layers is tandem connection monitored to support multi-operator transport paths and/or protected transport paths and/or bundled services (TDM PW bundle).

Figure 5: MPLS-TP - Client Relationship and MPLS-TP layers
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And the inclusion of a new figure:

The three transport service layer transport path signals (PW, Service LSP and Ethernet VLAN) are transported through e.g. an edge-to-edge LSP based transport path layer transport path. It is important to realize that those three service layer trnasport path signals co-exist in their server layer transport paths. To make this explicit it is proposed to add the following figure to the framework document:

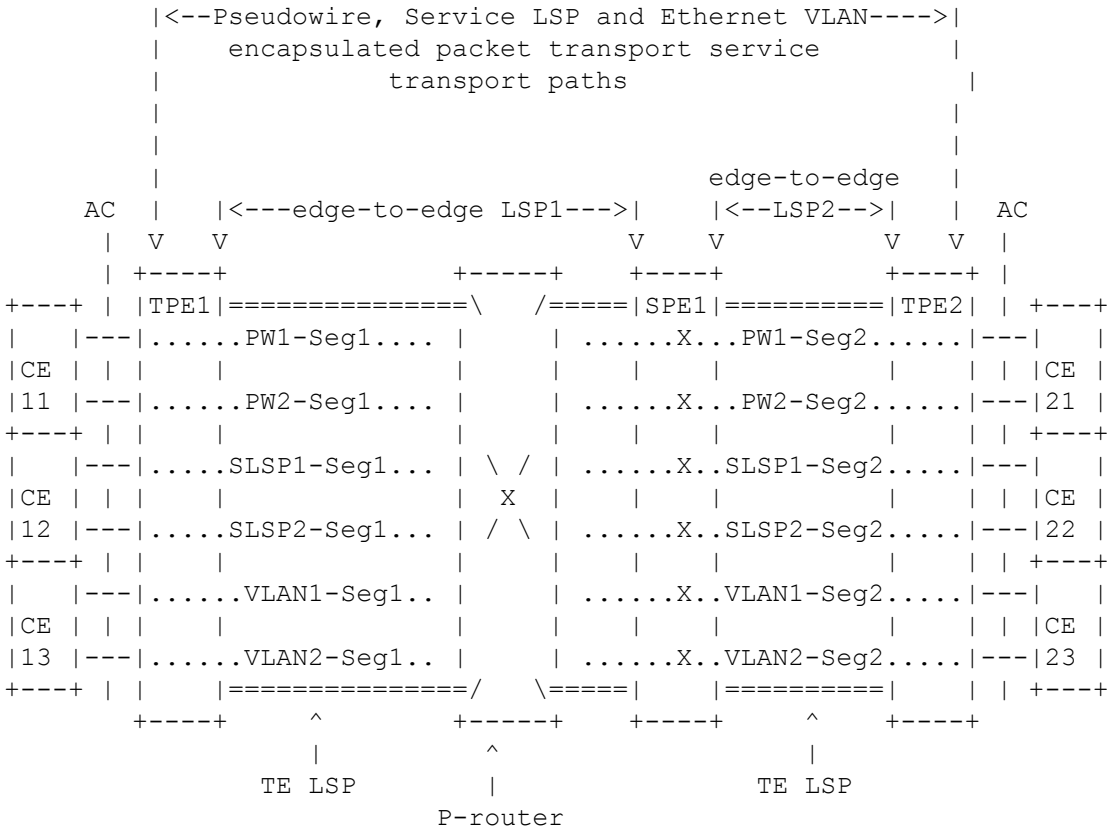

Figure K: MPLS-TP edge-to-edge LSP transporting PW, Service-LSP and Ethernet VLAN transport service layer transport path signals

Please confirm an expansion of the figures from the draft into the figures shown above that will be included in G.8110.1 is acceptable.