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**Question(s):** 9/15

Geneva, 19-30 September 2016

**TD**

**Source:** Editor G.8131/Y.1382

**Title:** Draft Amendment 2 to Recommendation ITU-T G.8131/Y.1382 (2014) (for Consent, 30 September 2016)

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This document provides Draft Amendment 2 to G.8131/Y.1382 (2014) (for consent)

This Draft Amendment is prepared based on the text provided in the following contribution of meeting:

- SG15 Plenary, Geneva, 15 February 2016
  - C 1765r1, "Proposal of adding PW linear protection to G.8131",

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## **Draft Amendment 2 to Recommendation ITU-T G.8131/Y.1382 (2014)**

### **Linear protection switching for MPLS transport profile: Amendment 2**

#### **Summary**

Amendment 2 to Recommendation ITU-T G.8131/Y.1382 (2014) provides:

- Support for pseudowire (PW) protection.

## **Draft Amendment 2 to Recommendation ITU-T G.8131/Y.1382 (2014)**

### **Linear protection switching for MPLS transport profile: Amendment 2**

#### **1) Scope of Amendment 2**

This amendment provides support for pseudowire (PW) protection.

#### **2) Text modifications to Recommendation ITU-T G.8131/Y.1382 (2014)**

##### **2.1) Clause 2, References**

*Add the following reference to clause 2:*

[IETF RFC 7771-A] IETF RFC 7771 (2016), *Switching Provider Edge (S-PE) Protection for MPLS and MPLS Transport Profile (MPLS-TP) Static Multi-Segment Pseudowires; Appendix A - Optional Linear Protection Approach.*

##### **2.2) Clause 4, Abbreviations and acronyms**

*Add the following abbreviations to clause 4:*

MS-PW	Multi-Segment Pseudowire
PW	Pseudowire
S-PE	Switching Provider Edge
SS-PW	Single-Segment Pseudowire
T-PE	Terminating Provider Edge

##### **2.3) Clause 6, Protection architecture and characteristics**

*Replace the following paragraph in clause 6:*

The MPLS-TP linear protection switching architecture is subnetwork connection protection with sublayer monitoring (SNC/S) protection as defined in [ITU-T G.808.1]. MPLS-TP trail protection is also supported but the functional model is for further study. Other types are for further study.

*With:*

This version of the Recommendations describes the MPLS-TP subnetwork connection protection with sublayer monitoring (SNC/S) protection architecture for both LSP and PW sub-layers. It also supports MPLS-TP trail protection architecture for both LSP and PW sub-layers. Other types are for further study.

##### **2.4) New clause 9.5**

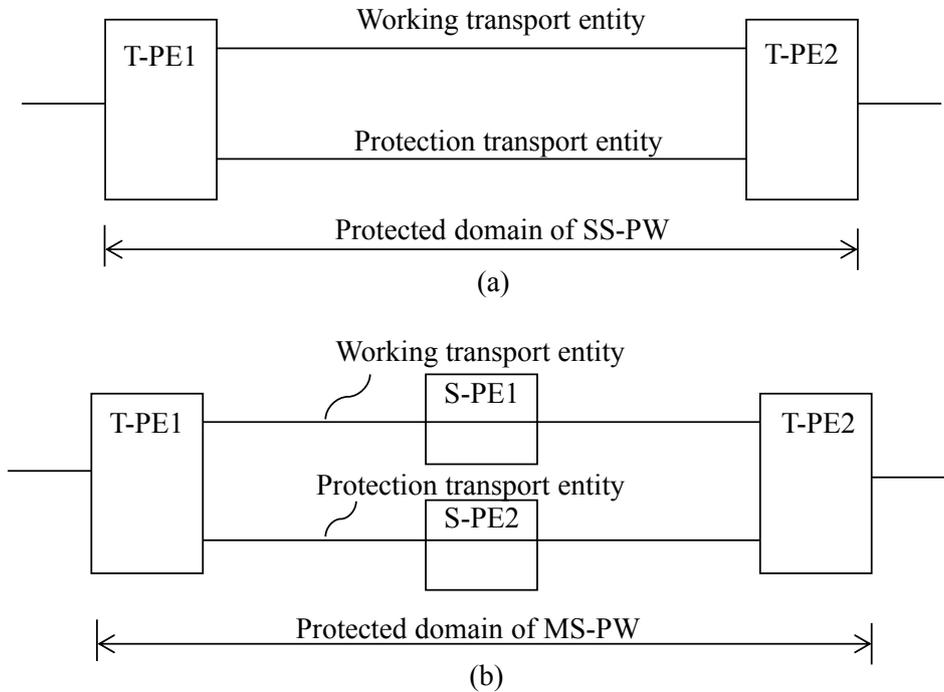
*Add a new clause 9.5 as shown below, after clause 9.4.*

#### **9.5 Pseudowire protection**

The MPLS-TP linear protection switching mechanisms defined in this Recommendation can be used to provide end-to-end protection for pseudowires (PWs) carried over MPLS-TP LSPs. This

enables a uniform operational approach for protection at LSP and PW layers and an easier management integration for networks that already implement the MPLS-TP linear protection. Both Single-Segment Pseudowire (SS-PW) and Multi-Segment Pseudowire (MS-PW) are supported.

The protected domain of a point-to-point PW consists of two terminating PEs (T-PEs) and the transport entities that connect them (see Figure 9-10).



**Figure 9-10 – Protected domain of (a) SS-PW; (b) MS-PW**

### 9.5.1 Encapsulation of the APC protocol for pseudowires

The APC protocol is used to protect against defects on any LSP (segment, link, or path). In the case of MS-PW, the APC protocol can also protect failed S-PE. Linear protection protects an LSP or PW end-to-end and if a failure is detected, switches traffic over to another transport entity available.

Obviously, the protected entity does not need to be of the same type as the protecting entity. For example, it is possible to protect a link by a path. Likewise, it is possible to protect an SS-PW with an MS-PW, and vice versa.

From an APC protocol point of view, it is possible to view an SS-PW as a single-hop LSP and an MS-PW as a multiple-hop LSP. Thus, this provides end-to-end protection for the SS-PW or MS-PW. The G-ACh carrying the APC specific information is placed in the label stack directly beneath the PW identifier. The APC protocol will then work as specified in this Recommendation.