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Encapsulation for PSC for Multi-Segment Pseudowires
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Abstract

In RFC 6378 'MPLS Transport Profile (MPLS-TP) Linear Protection', as well as in the later updates of this RFC, the Protection State Coordiantion (PSC) protocol was defined for MPLS LSPs only. This draft extends RFC 6378 to be applicable for pseudowires as well.

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1. Introduction

In RFC 6378 'MPLS Transport Profile (MPLS-TP) Linear Protection' [RFC6378], as well as in the later updates of this RFC in 'MPLS Transport Profile (MPLS-TP) Linear Protection to Match the Operational Expectations of SDH, OTN and Ethernet Transport Network Operators' [RFC7271] and in 'Updates to MPLS Transport Profile Linear Protection' [I-D.ietf-mpls-psc-updates], the Protection State Coordination (PSC) protocol was defined for MPLS LSPs only.

This draft extends RFC 6378 to be applicable for pseudowires (PWs) as well. This is useful especially in the case of end-to-end static provisioned Multi-Segment PWs (MS-PWs) running over MPLS-TP where we can't rely on tunnel protection alone for end-to- end protection of PWs against switching PE (S-PE) failure.

2. Encapsulation of the PSC protocol for Pseudowires

The PSC protocol can be used to protect against defects on any LSP (segment, link or path). Linear protection protects an LSP end-to-end and if a failure is detected, switches traffic over to another (redundant) set of resources.

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

From a PSC protocol point of view it is possible to view a PW as a single hop LSP, and a MS-PW as a multiple hop LSP. The PSC protocol will work just as specified in RFC 6378.

Thus the G-ACh carrying the PSC protocol information is placed in the label stack directly beneath the PW identifier.

3. Security Considerations

The security considerations defined for RFC 6378 apply to this document as well. As this is simply a re-use of RFC 6378, there are no new security considerations.

4. IANA Considerations

There are no requests for IANA actions in this document.

Note to the RFC Editor - this section can be removed before publication.

5. Acknowledgements

TBA

6. Normative References

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[RFC6378] Weingarten, Y., Bryant, S., Osborne, E., Sprecher, N., and A. Fulignoli, "MPLS Transport Profile (MPLS-TP) Linear Protection", RFC 6378, October 2011.

[RFC7271] Ryoo, J., Gray, E., van Helvoort, H., D'Alessandro, A., Cheung, T., and E. Osborne, "MPLS Transport Profile (MPLS-TP) Linear Protection to Match the Operational Expectations of Synchronous Digital Hierarchy, Optical Transport Network, and Ethernet Transport Network Operators", RFC 7271, June 2014.

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