

MPLS-TP Shared Mesh Protection

IETF 82 – Taipei, November 2011

Authors of draft-cheung-mpls-tp-mesh-protection

Authors of draft-pan-shared-mesh-protection

Solutions under Discussion

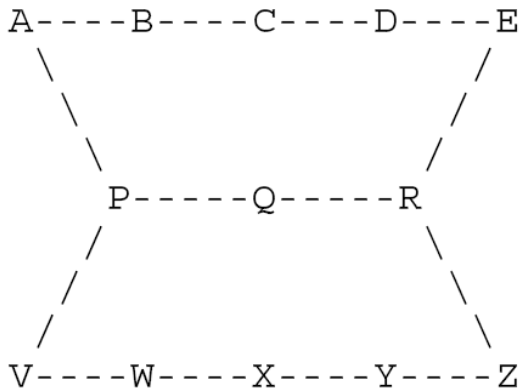
- Draft-cheung-mpls-tp-mesh-protection
 - Taesik Cheung and Jeong-Dong Ryoo (ETRI)
 - Yaacov Weingarten and Nurit Sprecher (NSN)
 - Daniel King (Old Dog)
- Draft-pan-shared-mesh-protection
 - Ping Pan, Rajan Rao and Biao Lu (Infinera)
 - Fatai Zhang, Sam Aldrin (Huawei)
 - Luyuan Fang (Cisco)
 - Andrew G. Malis (Verizon)
 - Fei Zhang (ZTE)
 - Mohana Singamsetty (Tellabs)

SMP Objectives

- Sharing of protection resources
- Rapid failover (optimized for packet)
- Reliable message exchange
- All corner cases covered
- Back out on failure of protection
- Notification to unprotected LSPs
- Re-use of existing protection mechanisms where possible

What is SMP?

(Required per MPLS-TP Requirements (Req 68, 69, RFC5654))



A Shared Mesh Protection Topology

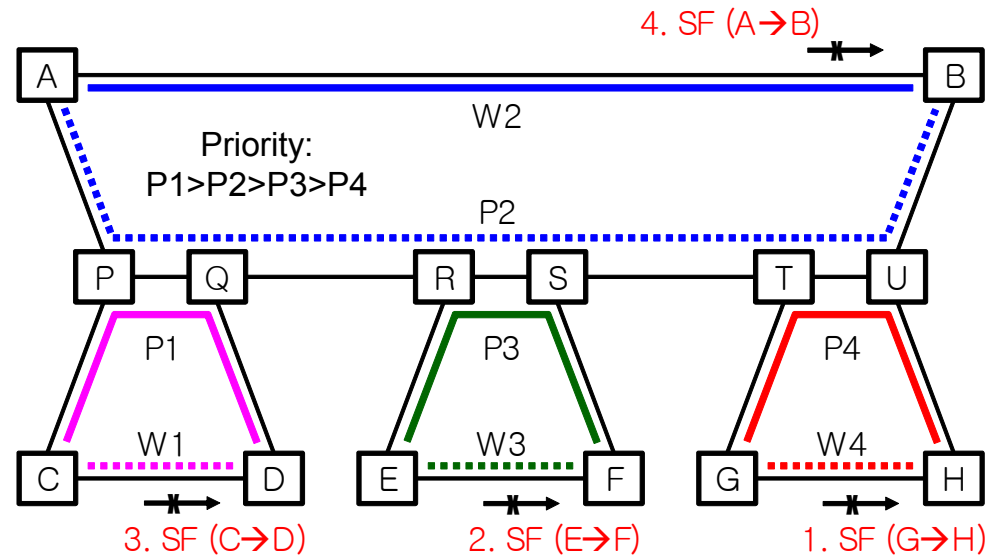
The resources on P-Q-R are shared by multiple working LSP's

- Key properties:
 1. Protection LSPs' are pre-established.
 2. Protection switching priority is assigned for each protection path (need to be known by shared nodes).
 3. Upon failure, a working LSP can be protected based on the priority.
 1. It may pre-empt the other LSP's.
 2. Unprotected LSP's are notified.

Corner Cases to be Covered

- Unnecessary service interruption

- P3 and P4 should not be interrupted by P2 which will be rejected by Q.



- Race condition

- P and Q receive requests from different LSP's having same priority.
- P and Q should decide how to resolve it.

