

# Support Shared Mesh Protection in MPLS-TP

IETF 83  
March, 2012

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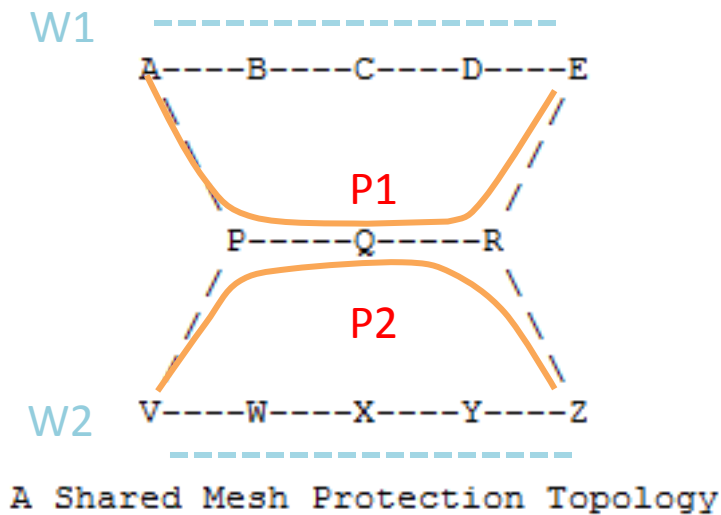
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# What is Shared Meshes Protection (SMP)?

## Key properties:

1. Setup protecting LSP's ahead of time
2. All protection related information are pre-computed and loaded to the relevant nodes
3. Upon failure, use Linear Protection mechanism in switching-over traffic
4. SMP protocol may be required to coordinate the usage of shared resources



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

# Background

- This is an important function in long-haul transport networks
- Multiple parties have been working on it for a long while
- There exists several drafts:
  - draft-allan-spme-smp-fmwk
  - draft-cheung-mpls-tp-mesh-protection-05
  - draft-pan-shared-mesh-protection-04
- Lack of information to chart a path forward

**It's to everybody's interest to consolidate**

# What we have to work with

- Existing Requirements: MPLS-TP Requirements (RFC5654)
  - [Req 68]: MPLS-TP SHOULD support 1:n (including 1:1) shared mesh recovery.
  - [Req 69]: MPLS-TP MUST support sharing of protection resources such that protection paths that are known not to be required concurrently can share the same resources.

**Which is a bit thin....**

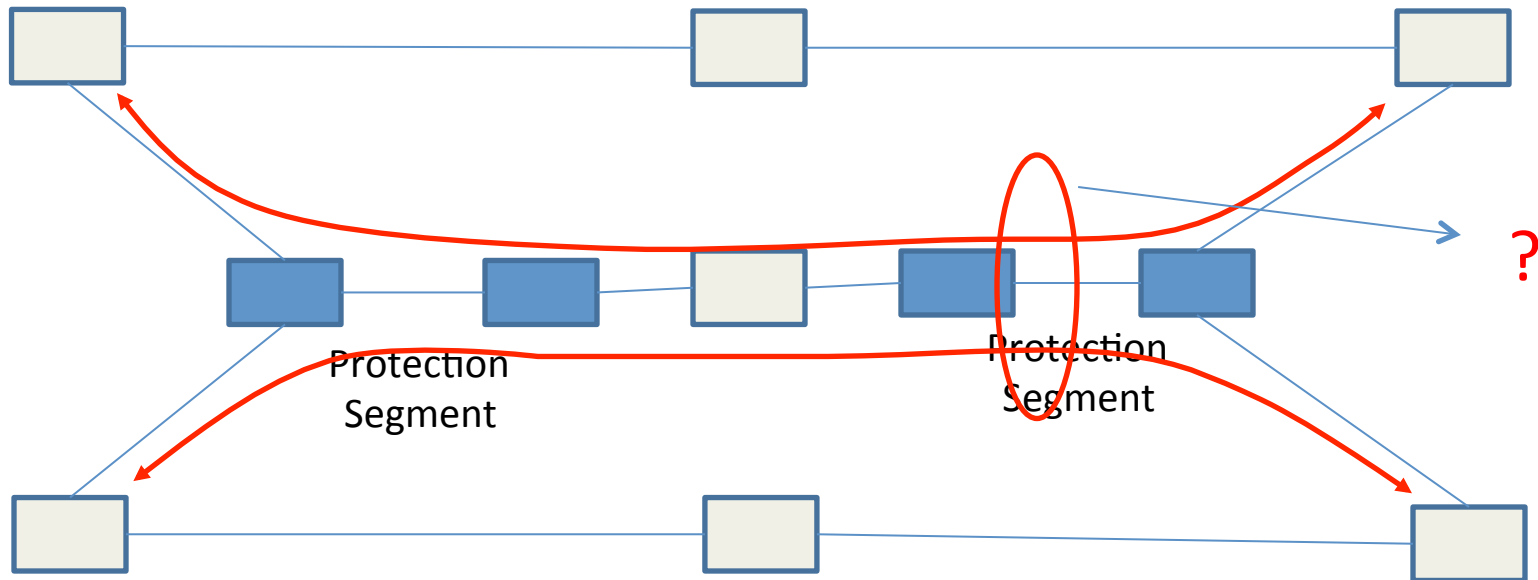
# The Plan

1. Framework and requirements
2. SMP Mechanisms and Procedures

# Detail

1. Define requirements in substantially more detail
  - what is the problem (business priority not application priority)
  - preemption behavior
  - role of actors
  - what restrictions are unacceptable
2. Determine if protocol work is needed
3. If protocol work is needed, we will converge on a common solution

# SMP Example



- SMP mechanism coordinates the usage of all the shared resources on the protection LSPs
- There could be multiple requests contenting on the same resources



# Summary

- Shared Mesh Protection is an important function in TP-enabled transport networks
- Will work together on
  - Detailed requirements and framework
- Subsequently, we will work on
  - State machine
  - Any necessary messaging protocols