Use Cases and Requirements for MPLS-TP multi-failure protection

draft-cui-mpls-tp-mfp-use-case-and-requirements-02.txt

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History and Purpose

- History
  - Older version includes m:1, but not m:n.

- Purpose of the new version.
  - Extend the scope to cover m:n, because it meets the customer needs well.

m:n protection architecture

- In the m:n architecture, the m backup paths(p1,p2) are sharing backup resource for n working paths, as shown in the following example(modeling).

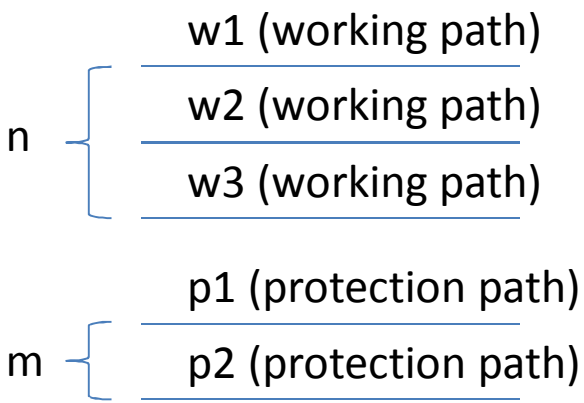

Figure 1: Reference Model

Use case 1

- Recover form multiple simultaneous failures.
  - Service providers can increase service availability.
    - High-priority service such as emergency telephone calls can be protected against disasters.
  - Operational pressure is reduced when a single failure occurs (service is still protected)

Use cases 2

- Reduce the backup costs.
  - The m backup paths should be sharing backup resource for n working paths, where n>=m.
  - The resources of protection path can be sharing with other protection groups, when combined with shared mesh protection.

Requirements

- The m:n protection function
  - (R1) Must protect against multiple simultaneous failures.
  - (R2) Should provides some schemes for resource reservation and coordination.
  - (R3) TBD

Next Steps

- Improve and extend the details of requirements.
- We like to make this draft a WG document.