Resource ReserVation Protocol-Traffic Engineering (RSVP-TE) Signaling Procedure for Resource Sharing-based LSP Setup/Teardown

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draft-zhang-ccamp-gmpls-resource-sharing-proc-01.txt

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Scope and Problem Statement

Scope: Resource Sharing based RSVP-TE signaling procedure for LSP setup/teardown for circuit networks (i.e., OTN, WSON etc.)

Objective: no protocol extension, to clarify following points that are not discussed in current RFCs.

- ✓ Explaining that traffic may be interrupted;
- ✓ Elaborating the node behaviors during the LSP setup and teardown process;
- ✓ Summation of best current practice for resource sharing during:
  - ✓ Service restoration and reversion in circuit network
  - ✓ Service modification in circuit network

Changes from 00.txt

- Specify the interruption during the procedure
- Emphasis on the difference with existing draft(s)
  - Different scope with draft-gandhi-ccamp-gmpls-restoration-lsp-04
- Author list update

Scenarios and Discussion (1)

- Restoration Procedure
  - ✓ Interrupt original service (Blue)
  - ✓ Re-establish restoration service (Red)

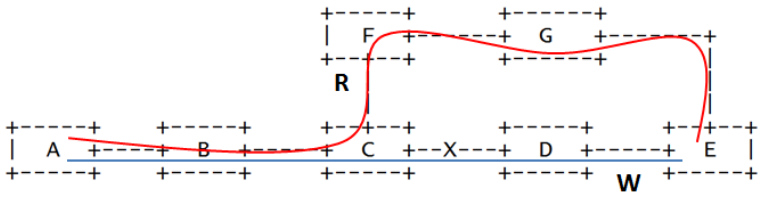
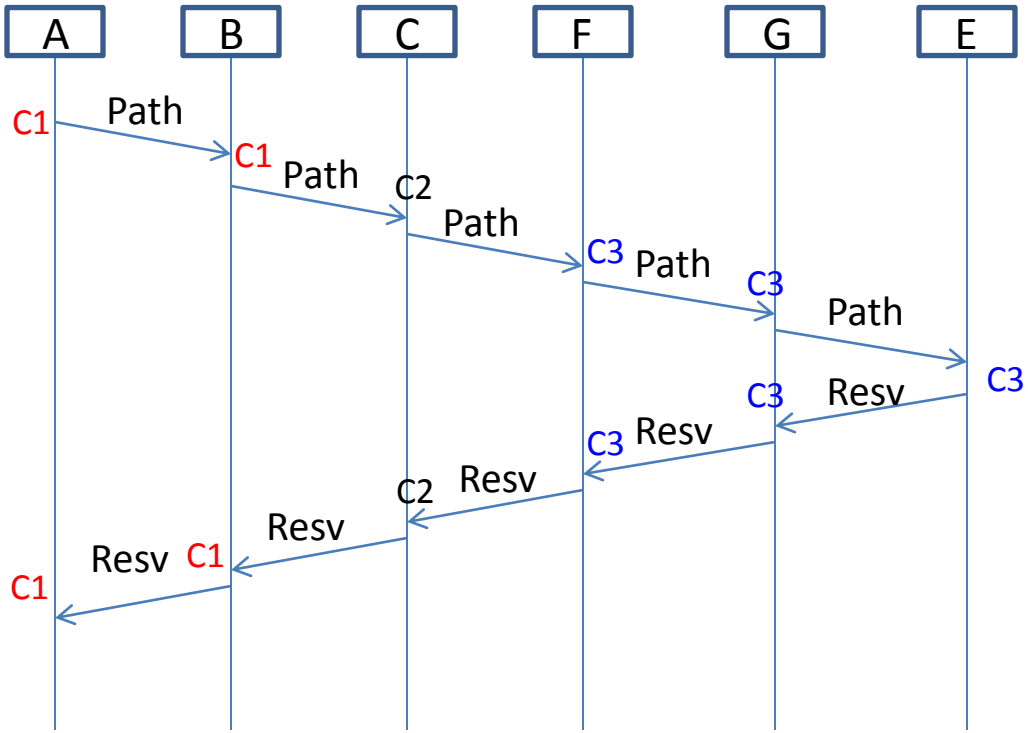


Figure 1: A Simple OTN Network

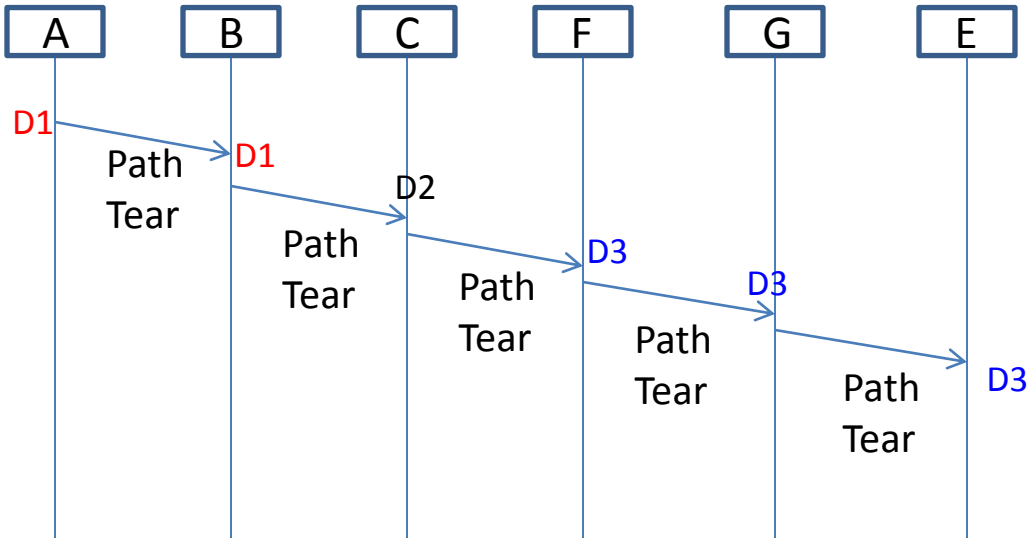


C1: re-use resources on both interfaces
No need to reconfig. XC.

C2: re-use resources on One interfaces
Need to reconfig. XC.

C3: use new resources
Need to config. XC.

Scenarios and Discussion (2)



D1: re-use resources; do not release XC;
D2: re-use resources on one interface, need to re-configure XC;
D3: need to release XC.

- Reversion Procedure
  - ✓ Detect failure clearance by end node(s)
  - ✓ Teardown restoration service - interruption
  - ✓ Re-signaling RSVP-TE and establish an equivalent LSP as the one before failure
  - ✓ Can be achieved by using existing protocols

Scenarios and Discussion (3)

- LSPs with the Identical Tunnel ID
  - ✓LSP Restoration Setup and Reversion
  - ✓LSP Re-optimization Setup and Reversion
    - ✓ Signaling flow: same as described before.
    - ✓ “Make while break”
- LSPs with the Different Tunnel IDs
  - Segment recovery: using Association Object (T=2), covered by RFC4873
  - General case, i.e., two LSPs sharing resource: using Association Object (T=3), uniqueness of LSP association should be guaranteed, especially in multi-layer/domain context.
  - Signaling flow: same as before. May be “make while break”

Next Step

- Comments?
- WG Adoption?