RSVP-TE Signaling For GMPLS Restoration LSP

draft-gandhi-ccamp-gmpls-restoration-lsp-04

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Agenda

- **Problem Statement**
- **Signaling Procedure Clarification**
- **Update since Previous IETF and Next Steps**

Problem Statement - Need for Clarification

1. **Fully dynamic rerouting case is defined in [RFC4872] for end-to-end recovery.**
2. **Solutions in [RFC4872] and [RFC6689] cover the case where failed LSP is torn down and resources in the network are freed before restoration LSP is signaled.**
3. **This is not the case for 1+R, 1+1+R Use cases where failed LSP is not torn down.**

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Signaling Procedure Clarification For 1+R

- **Working LSP:**
  - **PROTECTION object with P = 0**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of itself [RFC6689].**
- **Restoration LSP:**
  - **PROTECTION object with P = 0**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of working LSP (recall that working is not torn down so LSP-ID of working is valid).**

Signaling Procedure Clarification For 1+1+R

- **Working LSP:**
  - **PROTECTION object with P = 0**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of protect LSP (LSP_ID of itself when Protect is not UP) [RFC6689].**
- **Protecting LSP:**
  - **PROTECTION object with P = 1**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of working LSP [RFC6689].**
- **Restoration LSP for working:**
  - **PROTECTION object with P = 0**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of working LSP.**
- **Restoration LSP for protecting:**
  - **PROTECTION object with P = 1**
  - **LSP has ASSOCIATION object with association ID = LSP-ID of protecting LSP.**

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Update since IETF-89 London

- Document text updated in version-04 (latest) to reflect informational status to address comments from Lou Berger.
- Had offline discussions with authors of the following draft to see if there is any overlap of work.
  - draft-zhang-ccamp-gmpls-resource-sharing-proc
  - Authors of both drafts agreed that resource sharing work done in the above draft is orthogonal to the restoration LSP association procedure.

Next Steps

- **This is an Informational draft.**
- **There was a good support in the room when the draft was presented at IETF-89 in London.**
- **We request to make this draft a WG Document.**

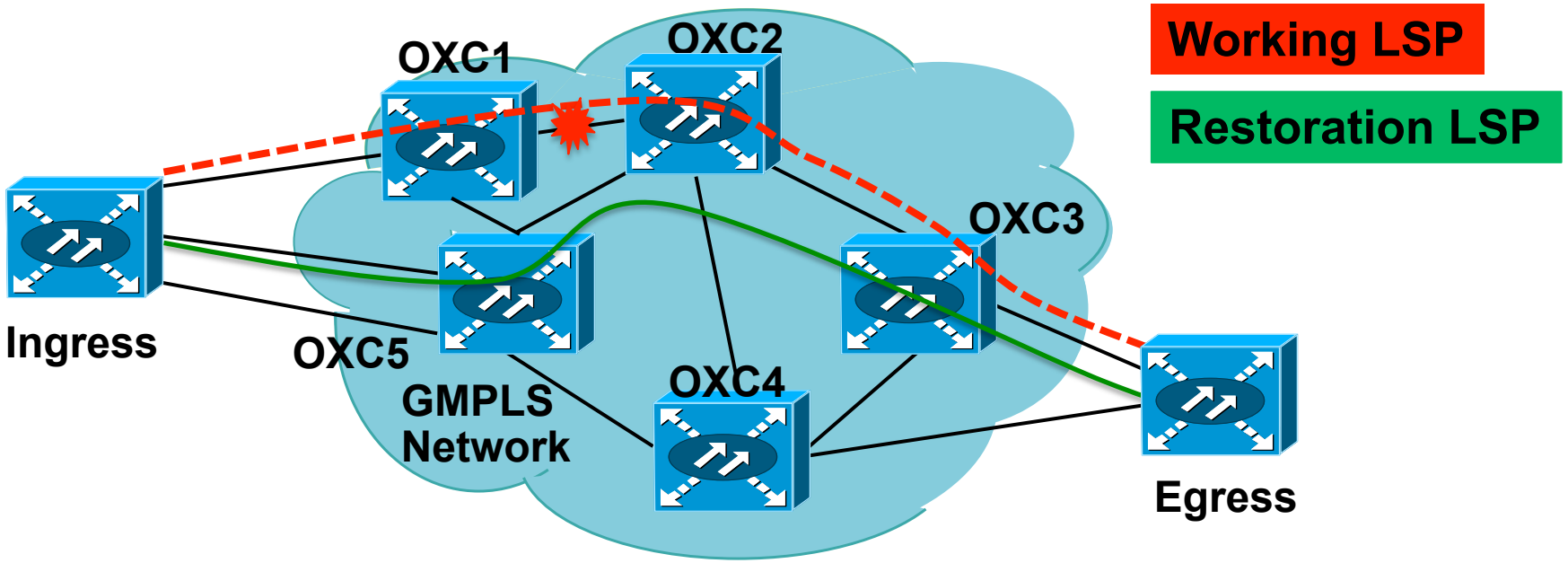
Thank You.

Backup Slides

Outline

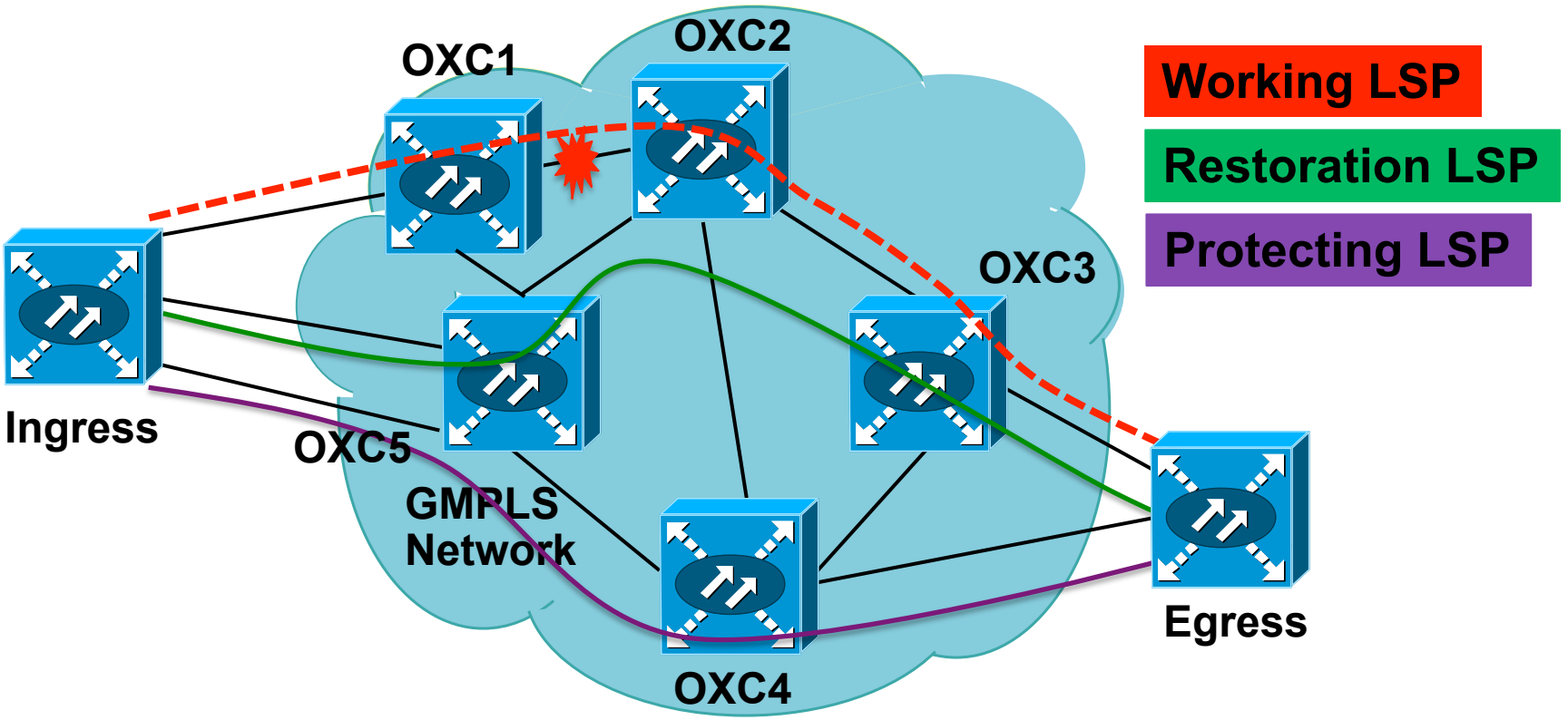
- **Requirements and Use Cases**
- **Problem Statement**
- **Signaling Procedure Clarification**
- **Update since Previous IETF and Next Steps**

Transport Requirements for Restoration LSP (1+R Use case)



1. Resources for the failed LSP need to remain reserved at least in control plane in transport network as:
   - The LSP follows a nominal path (minimum latency, minimum cost, etc.).
   - Deterministic behavior after the failure is repaired (guaranteed SLA).
2. Restoration LSP is signaled after the failure of the working LSP is detected.
3. Restoration LSP may share resources with the failed working LSP using procedures defined in draft-zhang-ccamp-gmpls-resource-sharing-proc.

Transport Requirement for Restoration LSP (1+1+R Use case)



1. Restoration LSP is signaled after the failure of the working LSP and/ or protecting LSP.
2. Restoration LSP provides protection against a second order failure for 1+1+R.
3. Restoration LSP may share resources with the failed working/protecting LSP using procedures defined in draft-zhang-ccamp-gmpls-resource-sharing-proc.