RSVP-TE Signaling For GMPLS Restoration LSP

draft-gandhi-ccamp-gmpls-restoration-lsp-03

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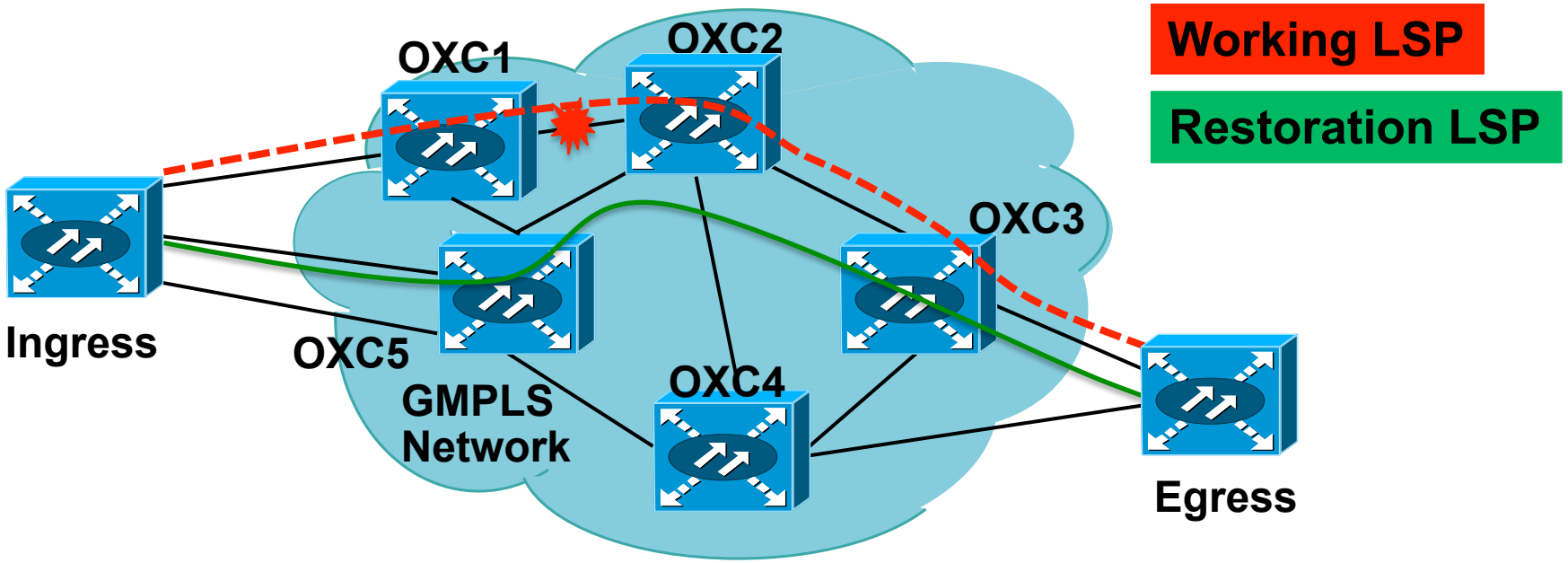
Outline

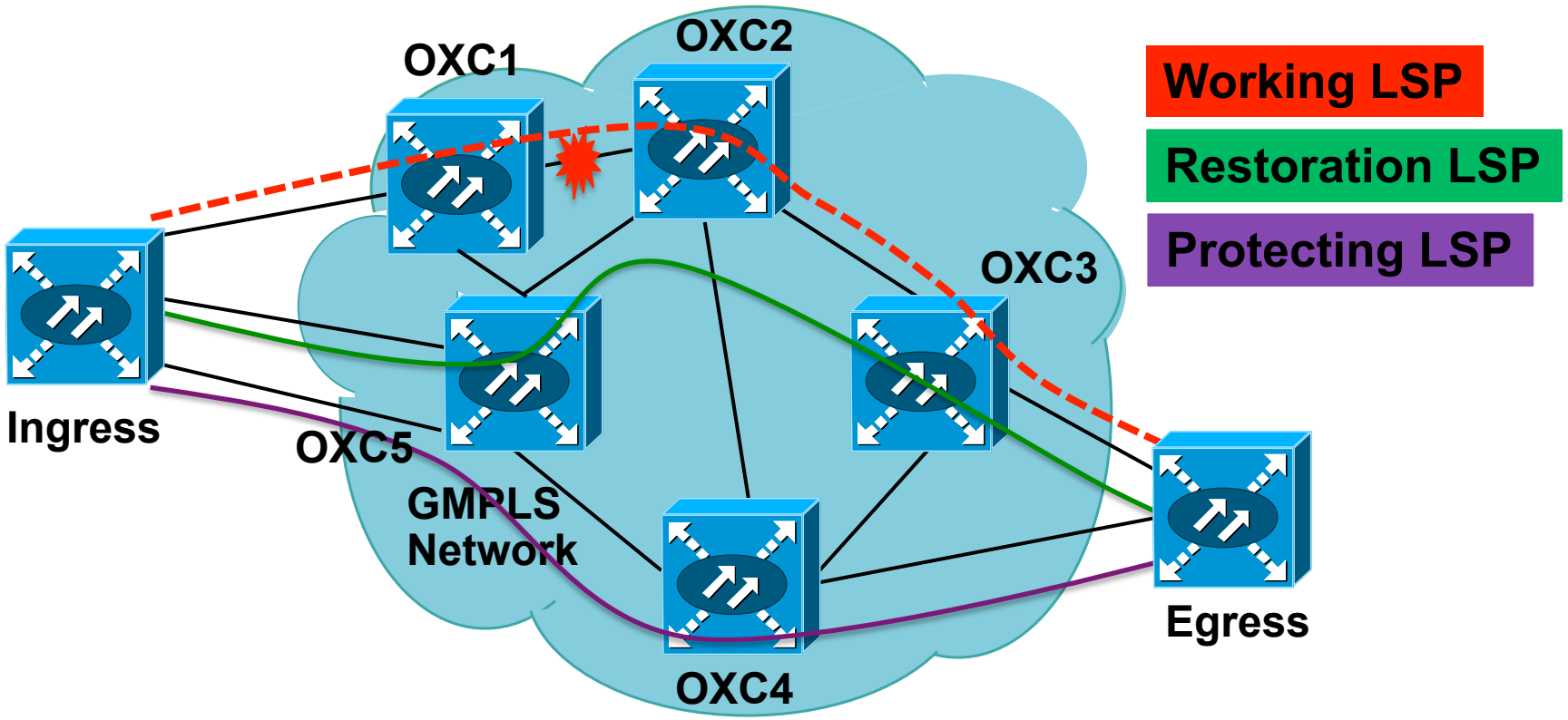
- **Requirements and Use Cases**
- **Problem Statement and Update since Previous IETF**
- **Signaling Procedure Clarification**
- **Next Steps**

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.

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 may share resources with the failed working/protecting LSP.
3. Restoration LSP provides protection against a second order failure for 1+1+R.

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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.**

Update since IETF-88 Vancouver

1. We have Xian Zhang (Huawei) joined as a co-author.
2. Addressed comments from the working group.

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Signaling Procedure 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 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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Next Steps

- **This is an Informational draft.**
- **We like to make this draft a WG Document.**

Thank You.