PCEP Extensions for Associated Bidirectional Label Switched Paths (LSPs) with Stateful PCE

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Agenda

• Requirements and Scope
• Double-sided Initiation of Bidirectional LSP
• Single-sided Initiation of Bidirectional LSP
• PCEP Object Definitions
• Next Steps
Requirements and Scope

Requirements:
• Packet transport networks deploying bidirectional LSPs
• Co-routed and non co-routed forward and reverse LSP paths
• Asymmetric forward and reverse LSP bandwidths

Scope:
• Associated bidirectional LSPs
• PCE-Initiated LSPs
• PCC-Initiated LSPs
• Stateless PCE (e.g. for co-routed path computation requests)
Double-sided Initiation of Bidirectional LSP

Association Type: Double-sided

Association initiated by PCE

LSPs can be co-routed or non co-routed
Single-sided Initiation of Bidirectional LSP

- PCE or PCC Initiated LSPs
- Association initiated by PCC or PCE
- Endpoint-A signals RSVP REVERSE_LSP Object in LSP1 Path message for reverse LSP2

Association Type: Single-sided Bidirectional LSP Association TLV (Flags F,R,C)

PCE or PCC Initiated LSPs
Association initiated by PCC or PCE
Endpoint-A signals RSVP REVERSE_LSP Object in LSP1 Path message for reverse LSP2
PCEP ASSOCIATION Object

- Association Type (TBD1) = Single-sided Bidirectional LSP Association Group
- Association Type (TBD2) = Double-sided Bidirectional LSP Association Group
- The Association ID, Association Source, Global Association Source and Extended Association ID in the Association Object of the bidirectional LSPs are populated using the procedures defined in [RFC7551].
Bidirectional LSP Association Group TLV

- **F** (Forward LSP, 1 bit)
  - Indicates whether the LSP associated is the forward LSP of the bidirectional LSP.
- **R** (Reverse LSP, 1 bit)
  - Indicates whether the LSP associated is the reverse LSP of the bidirectional LSP.
- **C** (Co-routed LSP, 1 bit)
  - Indicates whether the associated bidirectional LSP is co-routed.
Next Steps

• Useful functionality to have?
• Welcome your comments and suggestions
• Request for WG adoption
Thank you.