

PCEP Extensions for Associated Bidirectional Label Switched Paths (LSPs)

[draft-barth-pce-association-bidir-03](#)

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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

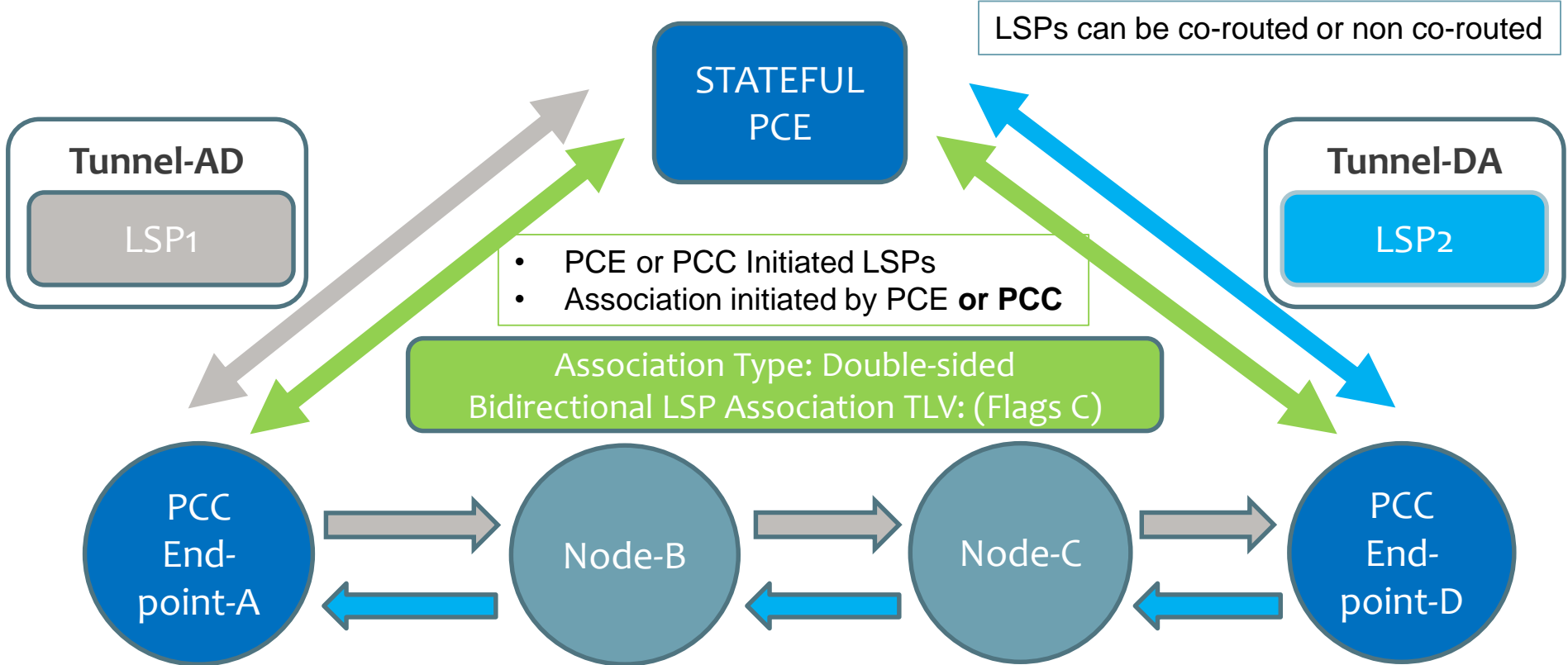
Requirements:

- Packet transport networks deploying bidirectional LSPs
- Co-routed and non co-routed forward and reverse LSP paths
- Asymmetric forward and reverse LSP properties (e.g. bandwidths)

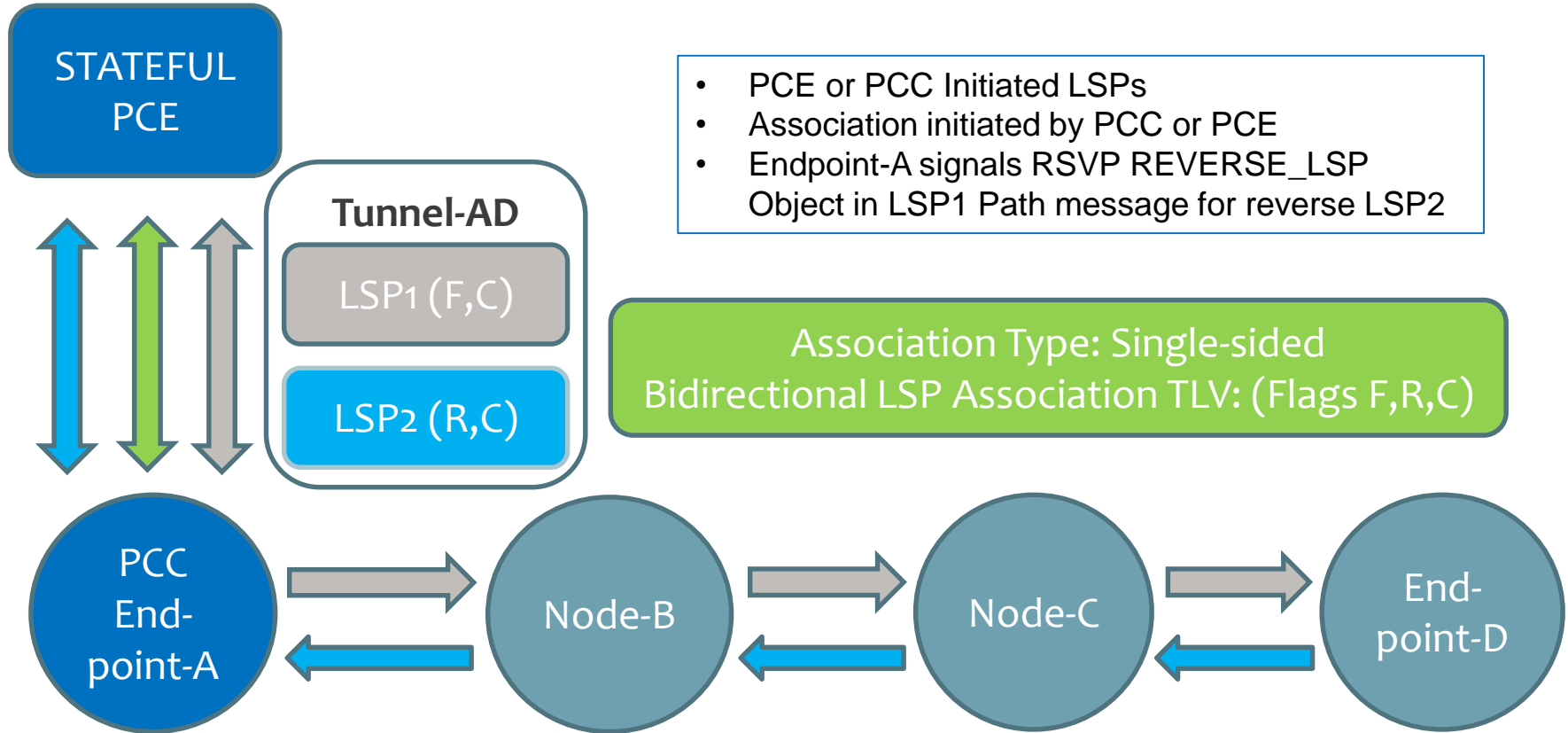
Scope:

- 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



Single-sided Initiation of Bidirectional LSP



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].
- **These Association Types are operator-configured associations. Operator-configured Association Range TLV SHOULD NOT be sent, so that the entire range of association ID can be used.**

Bidirectional LSP Association Group TLV

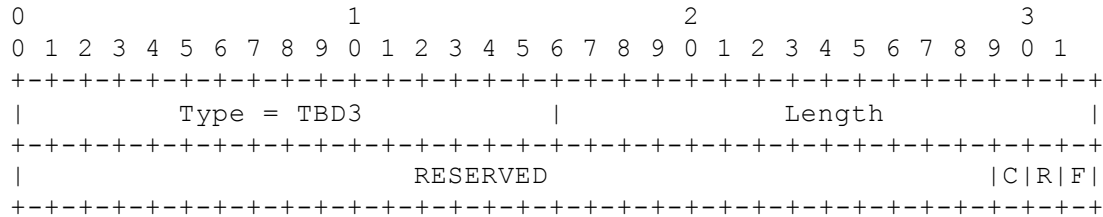


Figure 3: Bidirectional LSP Association TLV format

2

- 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.
- **The rules defined in [ietf-teas-assoc-corouted-bidir-frr] to identify forward and reverse LSPs are followed.**

Error Handling

- **Both forward and reverse LSPs belong to the same bidirectional TE tunnel [RFC3209].**
- **New PCErr is defined as following:**

```
Error-Type    = Bidirectional LSP Association Error  
Error-Value  = Tunnel mismatch
```


Next Steps

- Welcome your review comments and suggestions
- Request for WG adoption

Thank you.