

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

draft-ietf-pce-association-bidir-05

Colby Barth (cbarth@juniper.net)

Rakesh Gandhi (rgandhi@cisco.com)

Bin Wen (Bin_Wen@comcast.com)

Agenda

- Requirements and Scope
- Double-sided Associated Bidirectional LSP
- Single-sided Associated Bidirectional LSP
- PCEP Object Definitions
- Next Steps

Requirements and Scope

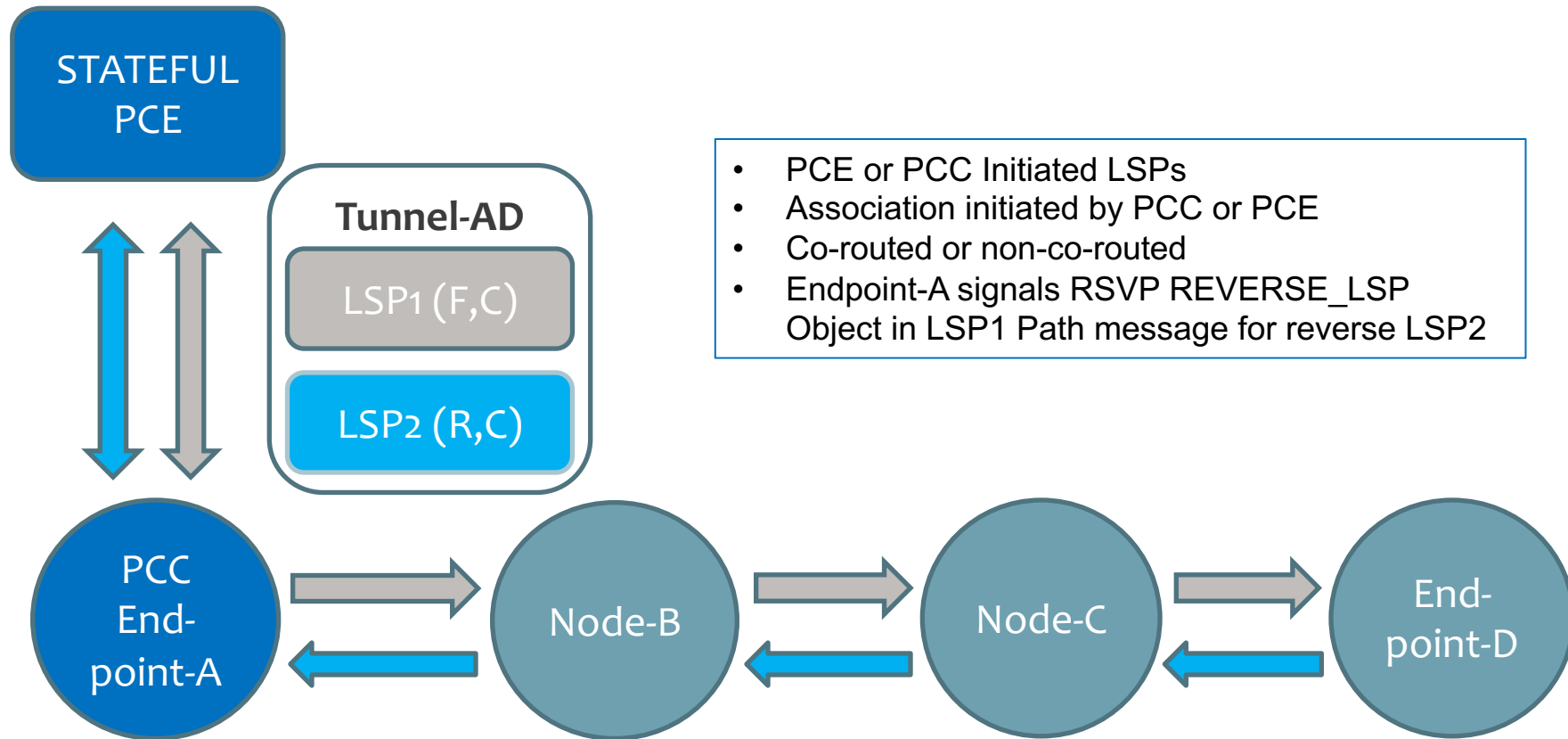
Requirements:

- Packet transport networks deploying bidirectional RSVP LSPs
- Co-routed and non-co-routed forward and reverse RSVP LSPs

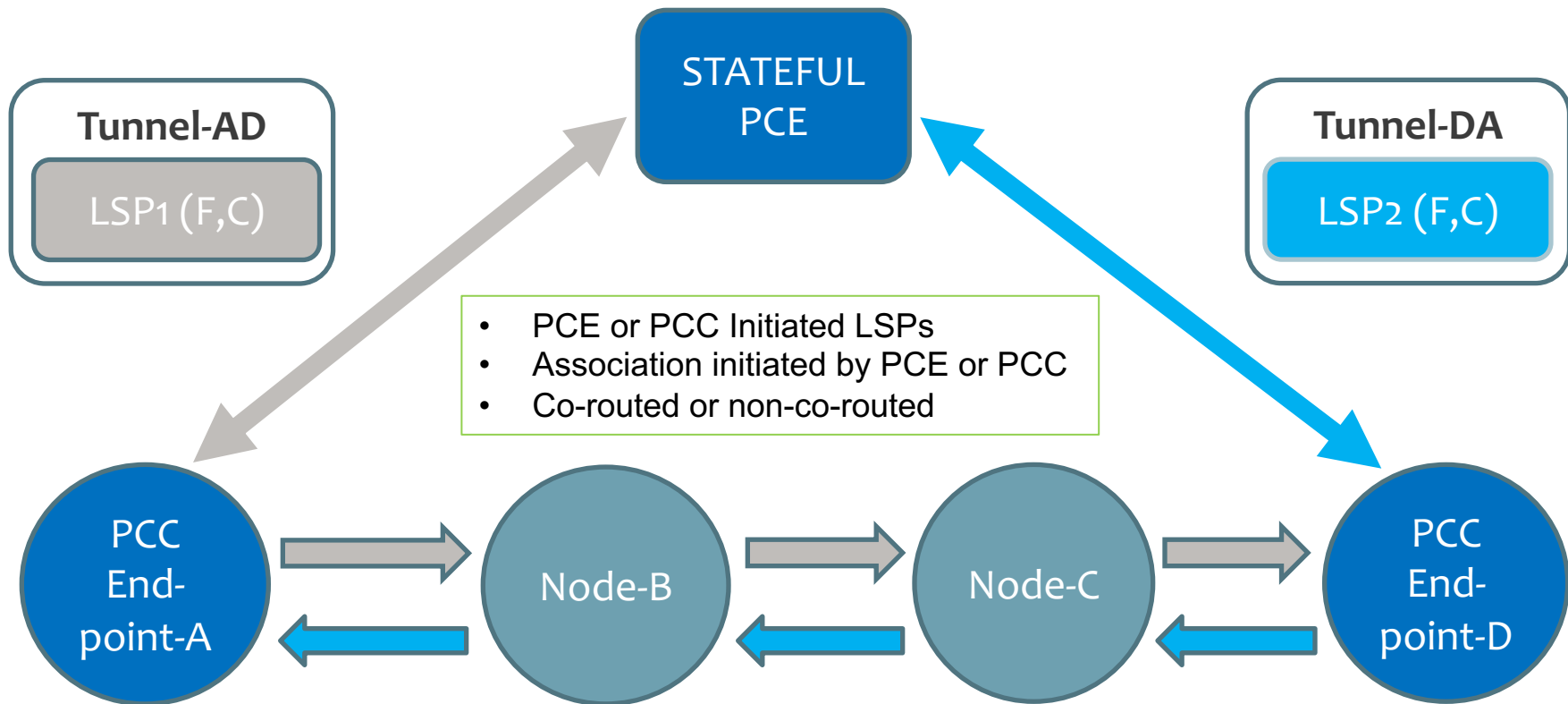
Scope:

- Associated bidirectional RSVP LSPs
- PCE-Initiated LSPs
- PCC-Initiated LSPs
- Stateless PCE (e.g. for co-routed path computation requests)

Single-sided Associated Bidirectional LSP



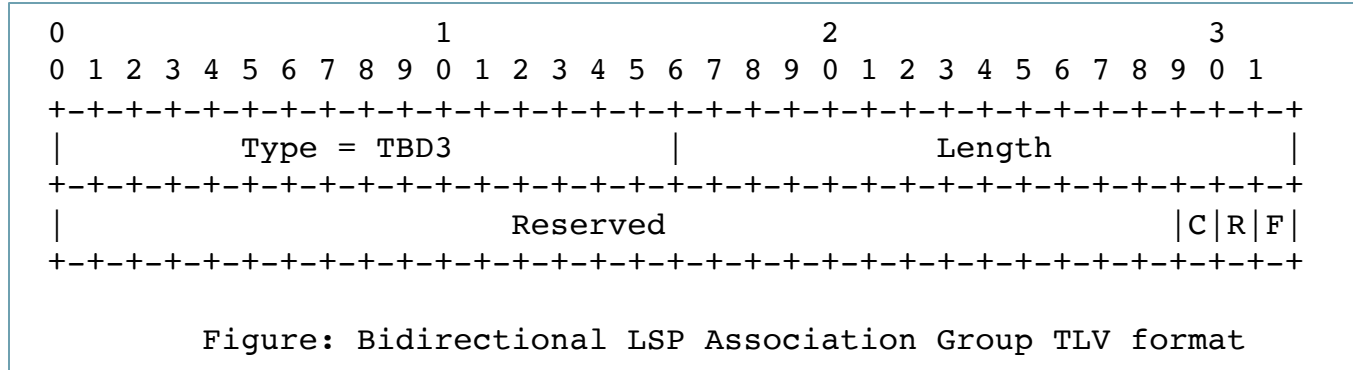
Double-sided Associated Bidirectional LSP



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



- 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.

Error Handling (PCErr Error-Type 26 - Association Error)

1. Both forward and reverse LSPs MUST belong to the same bidirectional TE tunnel [RFC3209].
 - Error-Value = Bidirectional LSP Association - Tunnel mismatch
2. LSP (forward or reverse) cannot be part of more than one Bidirectional LSP Association Group.
 - Error-Value = Bidirectional LSP Association - Group Mismatch
3. If a PCEP speaker receives a different PST value for Bidirectional LSP association group and it does not support.
 - Error-Value = Bidirectional LSP Association - Path Setup Type Not Supported

Next Steps

- Welcome your review comments and suggestions
- Already in the WG LC Queue

Thank you.

PCEP Extensions for Associated Bidirectional SR Paths

draft-ietf-pce-sr-bidir-path-01

Cheng Li (chengli13@huawei.com)

Mach(Guoyi) Chen (Mach.chen@huawei.com)

Weiqiang Cheng (chengweiqiang@chinamobile.com)

Rakesh Gandhi (rgandhi@cisco.com) - Presenter

Quan Xiong (xiong.quan@zte.com.cn)

Agenda

- Requirements and Scope
- Double-sided Associated Bidirectional **with Reverse** LSP
- PCEP Object Definitions
- Next Steps

Requirements and Scope

Requirements:

- Packet transport networks deploying bidirectional SR LSPs
- Co-routed and non-co-routed forward and reverse SR LSPs

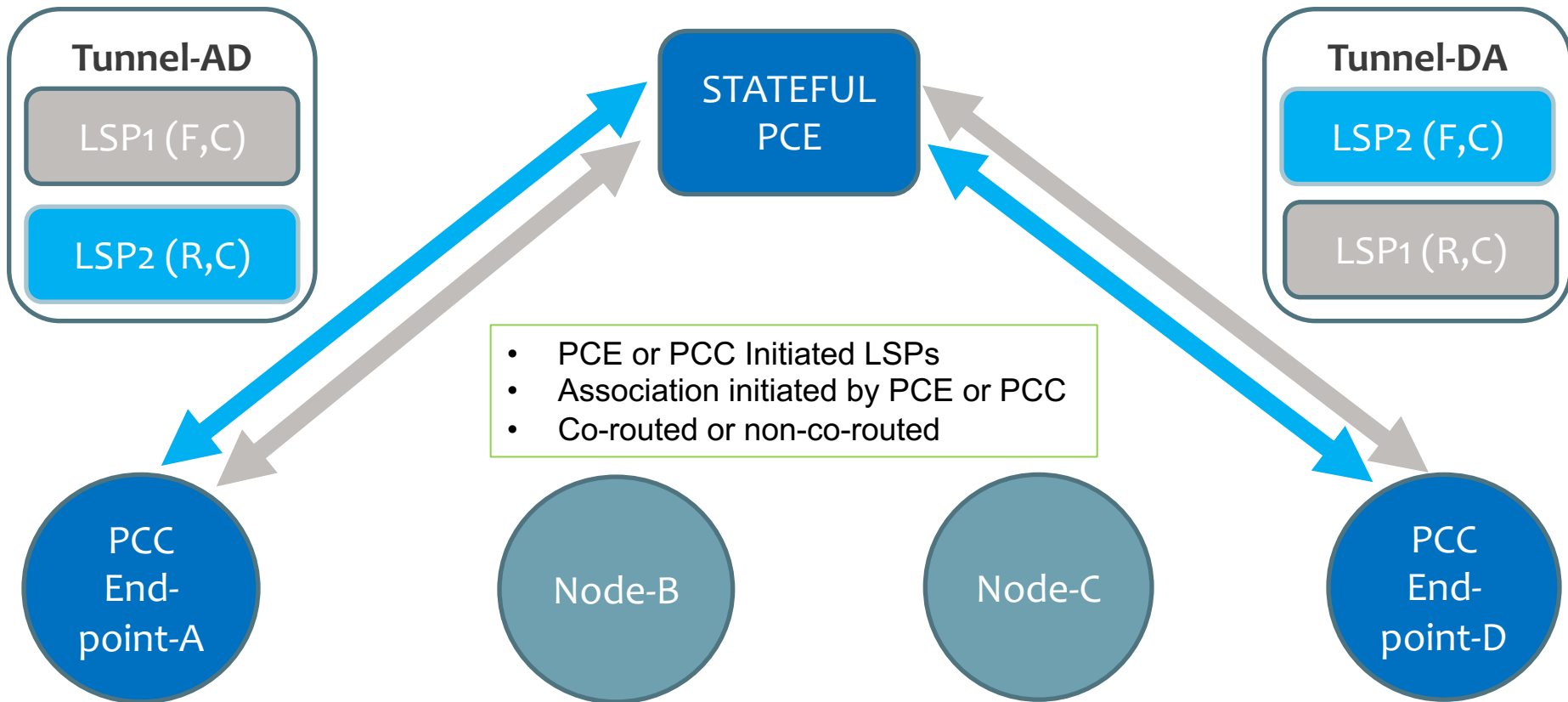
Scope:

- Associated bidirectional SR LSPs
- PCE-Initiated LSPs
- PCC-Initiated LSPs
- Stateless PCE (e.g. for co-routed path computation requests)

Not in Scope:

- **Associating bidirectional SR with RSVP LSPs**

Double-sided Associated Bidirectional with Reverse LSP



PCEP Association Object

- Association Type (TBD1) = Double-sided Bidirectional **with Reverse** LSP Association Group
- Populated using the same procedure as defined in [*draft-ietf-pce-association-bidir*]

Error Handling (PCErr Error-Type 26 - Association Error)

- PCErr defined in [*draft-ietf-pce-association-bidir*] are applicable

Specifically – Keep the door open for future extensions for other PST

- If a PCEP speaker receives a different Path Setup Type (PST) value for Bidirectional LSP association group and it does not support.
 - Error-Value = Bidirectional LSP Association - Path Setup Type Not Supported

Next Steps

- Welcome your review comments and suggestions
- Queue for WG LC?

Thank you.