Extensions to Path Computation Element Protocol (PCEP) to Support Resource Sharing-based Path Computation

PCE WG, IETF-100, Singapore
draft-zhang-pce-resource-sharing-05.txt

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Overview

✓ Re-Scope:
  ✓ Support specifying resource sharing strategy, especially when a new LSP is used to replace an existing LSP;
  ✓ Support resource sharing between two LSPs with different parameters such as end points, bandwidth, etc.;

✓ Use Cases:
  ✓ Use case for Single PCE
  ✓ Use case for Inter-PCE scenario
  ✓ Resource sharing with links/nodes/SRLG...

✓ Extensions to PCEP:
  ✓ Work with the Association draft, using their object and extend RS TLV;
Coordination & PCEP Extensions

- What we are reusing:
  - Association group object

- What we are introducing:
  - New association type: “sharing”;
  - Resource Sharing TLV in Association Type Object
Flag Designs

- **L bit**: prioritize link share during path computation;
  - Firstly try to share link, if failed, try to find a path without link share, report failure if failed again; same below;
- **N bit**: prioritize node share during path computation
- **S bit**: prioritize SRLG share during path computation
- The information of link/node/SRLG to be shared is carried in the optional TLVs;
Discussion and Next Step

• Comments?
  – Confirm relationship with existing works
  – Any suggestion to the solution?

• WG Adoption