

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

PCE WG, IETF-92, Dallas, USA

draft-zhang-pce-resource-sharing-03.txt

Xian Zhang (zhang.xian@huawei.com)

Haomian Zheng(zhenghaomian@huawei.com)

Oscar Gonzales de Dios (ogondio@tid.es)

Victor Lopez(vlopez@tid.es)

Overview

- ✓ Scope:
 - ✓ Support specifying resource sharing strategy;
 - ✓ Support resource sharing between two LSPs with different end points;
- ✓ Use Cases:
 - ✓ Use case for Single PCE
 - ✓ Use case for Inter-PCE scenario
 - ✓ Resource sharing with different Bandwidth/End nodes
- ✓ Extensions to PCEP:
 - ✓ Resource Sharing Object (RSO)

Changes after IETF90

- More details in Use Cases:
 - Introduce re-optimization for single-PCE case;
 - Specify higher-layer PCE and lower-layer PCE in multi-PCE case;
 - Together with their resource visibility;
 - Show the different computation result with different policy;
- Object Changes:
 - 16-bit RSO flags in Object (replace RSO codes)
 - Allowing sharing with multiple LSPs in optional TLVs

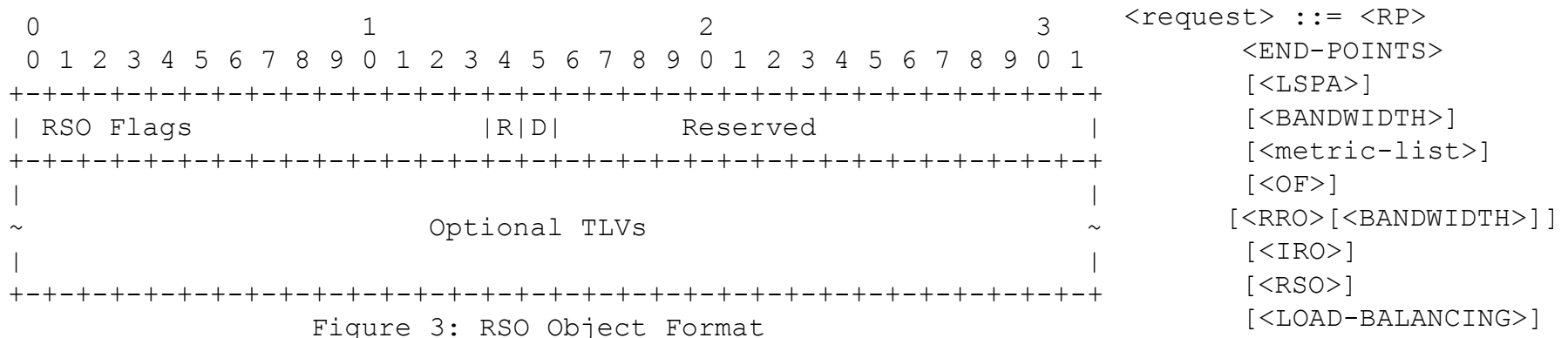
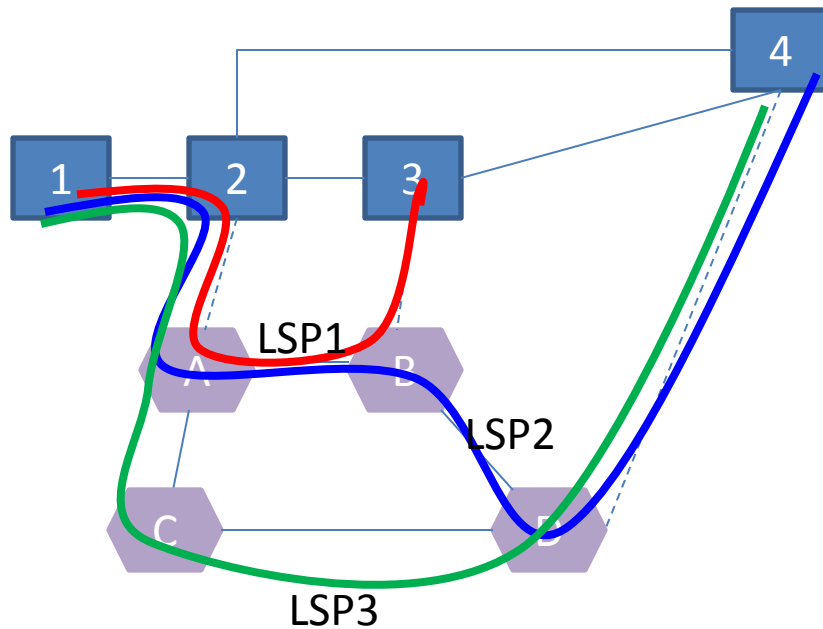


Figure 3: RSO Object Format

Example: Multi-layer Resource Sharing



Sharing Policies specified in PCReq from NE to PCE or inter-PCE:

RSO for LSP2:

- sharing resource with LSP1;
- sharing as much as possible;

RSO for LSP3

- Sharing resource with LSP1;
- Sharing as little as possible;

- RSO Information
 - The LSP being computed is sharing resource with?
 - Resource sharing policy;
- Other Information
 - General Path computation parameters;
 - Source and Destination, Bandwidth, etc.;

Discussion and Next Step

- Comments?
 - Any suggestion to the solution?
- WG Adoption