

PCEP Extension for SR-MPLS Entropy Label Position

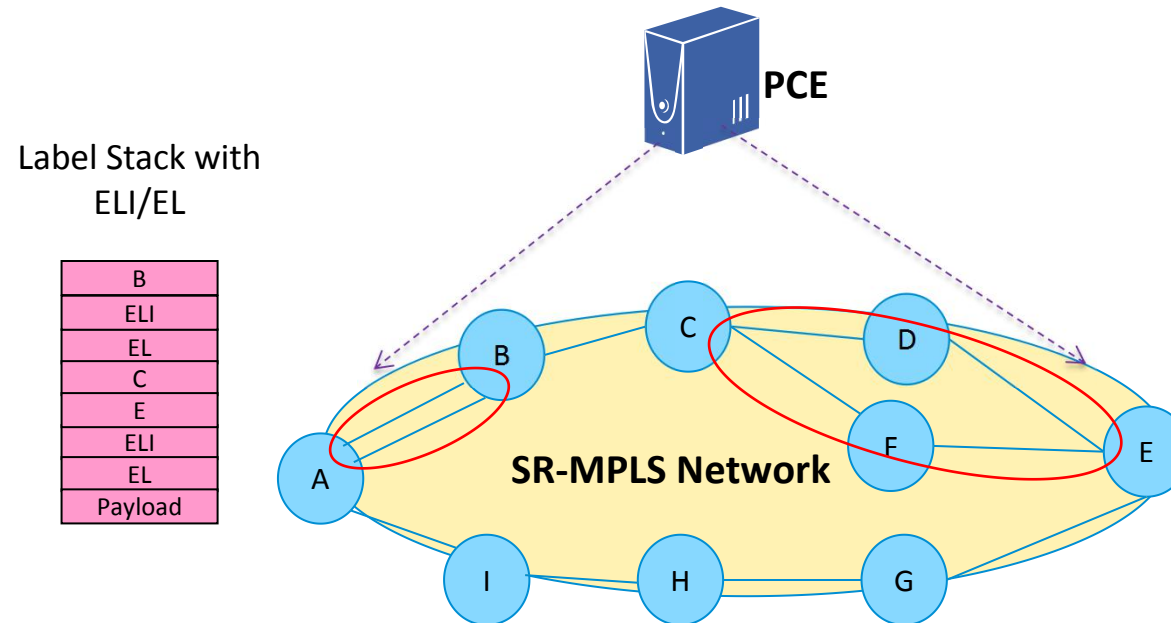
draft-peng-pce-entropy-label-position-01

Quan Xiong(ZTE)
Shaofu Peng(ZTE)
Fengwei Qin(China Mobile)

IETF PCE, November 2019, Singapore

Overview

- draft-ietf-mpls-spring-entropy-label proposes to apply the entropy labels to SR-MPLS networks and provides following criteria to determine the best ELI/ELs placement:
 - a limited number of <ELI, EL> pairs SHOULD be inserted in the SR-MPLS label stack;
 - the inserted positions SHOULD be within the Entropy Readable Label Depth (ERLD) of a maximize number of transit LSRs;
 - a minimum number of <ELI, EL> pairs SHOULD be inserted while satisfying the above criteria.
- It is required for the controller (e.g. PCE) to perform the TE path computation as well as the Entropy Label Position (ELP).



PCEP Extensions

- Open Object
 - indicate that it supports the SR path with ELP configuration.

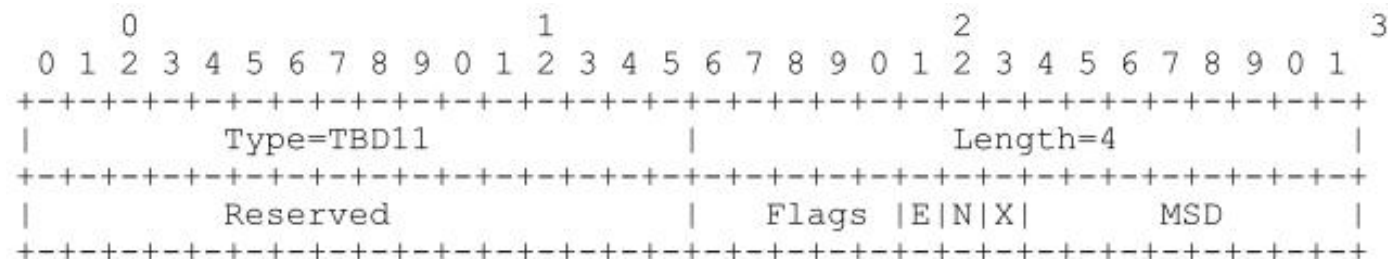


Figure 1: E-flag in SR-PCE-CAPABILITY sub-TLV

- LSP Object
 - indicate to compute the SR path with ELP information.



Figure 2: E-flag in LSP Object

- ERO Object
 - indicate that the position after this SR-ERO subobject is the position to insert <ELI, EL>, otherwise it cannot insert <ELI, EL> after this segment.

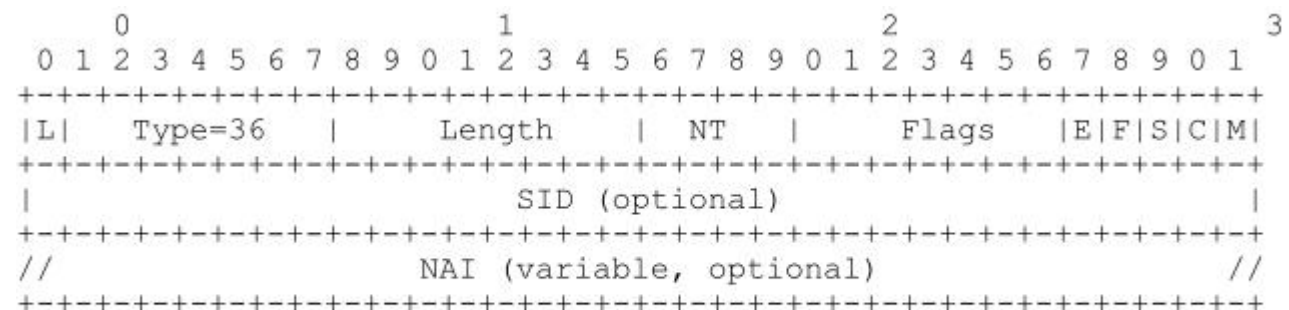


Figure 4: E-flag in SR-ERO subobject

Updates of RFC8231

- LSP Object
 - As defined in [RFC8231], the length of LSP Object Flag field is 12bits and bit 1 to bit 11 has been assigned.
 - This document proposes to define a new LSP-EXTENDED-FLAG TLV for LSP object to extend the length of the flag field.

Bit	Description	Reference
0	Unassigned	
1	ERO-compression	[RFC8623]
2	Fragmentation	[RFC8623]
3	P2MP	[RFC8623]
4	Create	[RFC8281]
5-7	Operational (3 bits)	[RFC8231]
8	Administrative	[RFC8231]
9	Remove	[RFC8231]
10	SYNC	[RFC8231]
11	Delegate	[RFC8231]



Figure 3: LSP-EXTENDED-FLAG TLV Format

Next Step

- Comments and discussions are very welcome!

Thank you!