

# BGP Extension for SR-MPLS Entropy Label Position

draft-zhou-idr-bgp-srmpls-elp-02

Yao Liu (ZTE)

Shaofu Peng(ZTE)

IDR WG

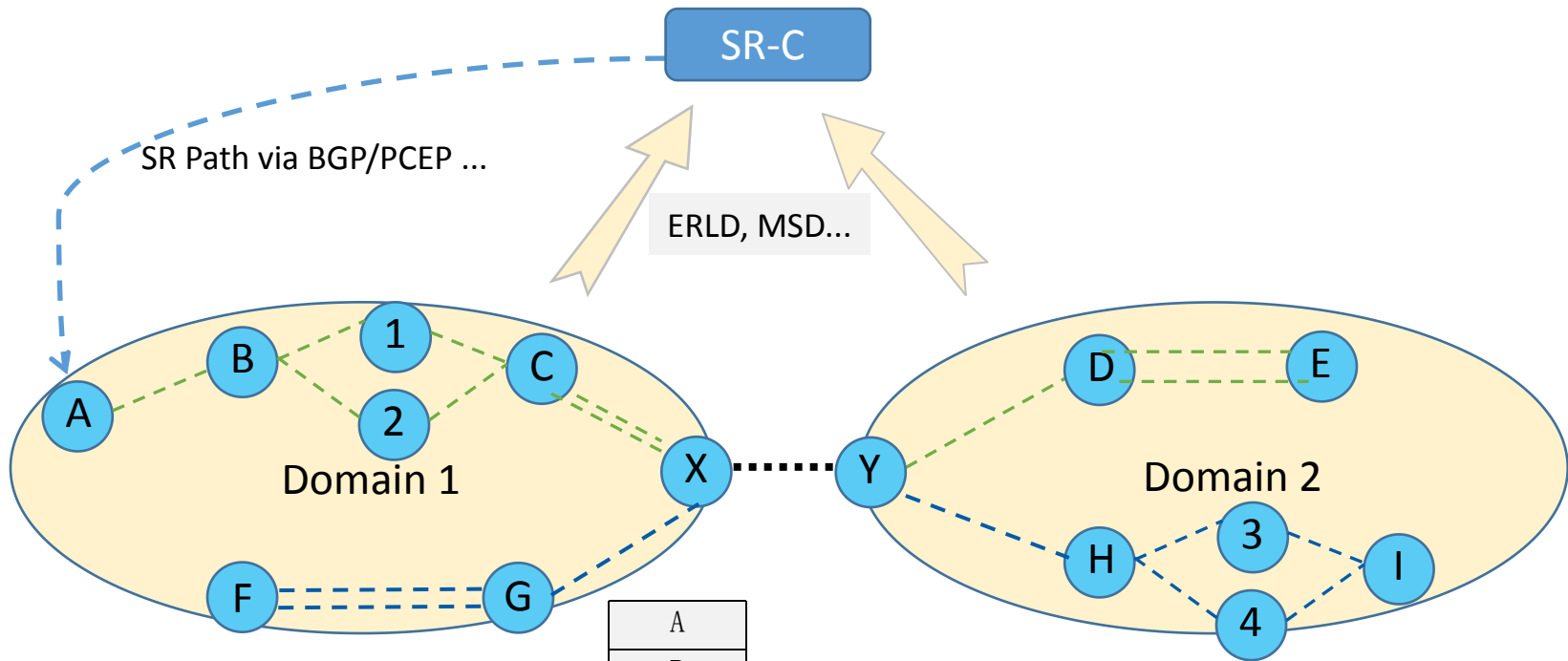
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# Background and Motivation

- Entropy labels (ELs) [RFC6790] are used in the MPLS data plane to provide entropy for load-balancing.
- [RFC8662] proposes to use entropy labels for SR-MPLS networks.
- Multiple criteria may be considered when placing < ELI, EL > pairs:
  - ERLD: Entropy Readable Label Depth.
  - MSD: Maximum SID Depth.
  - Segment Type, Maximizing Number of LSRs That Will Load-Balance, ... ..
- An external controller can be used to program the label stack.

# Background and Motivation



A
B
C
X
Y
D
E



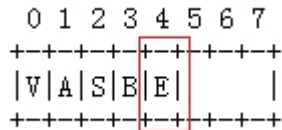
A
B
C
X
ELI
EL
Y
D
E
ELI
EL

Label Stack  
with ELs

This document proposes extensions for BGP to indicate the entropy label position in the segment list when distribute SR Policy candidate paths using BGP.

# BGP Extensions

## ➤ E-Flag in Segment Sub-TLV



- E-Flag: one bit. It indicates the presence of < ELI, EL > label pairs which are inserted after this segment. Applicable to Segment Types A, C, D, E, F, G and H.

```
SR Policy SAFI NLRI: <Distinguisher, Policy-Color, Endpoint>
Attributes:
  Tunnel Encaps Attribute (23)
    Tunnel Type: SR Policy
    ...
    Segment List
      Weight
      SegmentA
      SegmentB(E-Flag)
      SegmentC
      SegmentD(E-Flag)
      SegmentE
    ...
  ...
```

A
B
ELI
EL
C
D
ELI
EL
E

- The value of EL is supplemented by the ingress node according to load-balancing function of the appropriate keys extracted from a given packet.

## Next Steps

- Your feedback and comments are welcome and much appreciated

Thank You !