

BGP Extensions of SR Policy for Path Protection

draft-lp-idr-sr-path-protection

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Background and Motivation

- Segment list protection within Candidate Path:
 - Optional fast reroute mechanism
 - Flexible protection relationship for segment lists
 - Align with the extensions in PCEP [draft-ietf-pce-multipath]

```
SR Policy
  CP1
    List1 W1
    List2 W2
    List3(L1 backup) W
    List4(L2 backup) W
  CP2
    List5
    List6
```

primary CP1: L1+L2=80Gbps

SL1 down--> CP1 still active--> can't carry 80Gbps

Main Updates since 112

- Add a potential use case.
- Segment List ID is removed and merged with [draft-lin-idr-sr-policy-seglist-id], leaving this draft focusing on the list protection part.
- The BGP protocol extension is adjusted.
- Add Changwang Lin and Mike Koldychev as co-authors.

BGP Extensions for SR Policy

➤ B-Flag in Segment List Sub-TLV

```

+++++
|   Type   |           Length           |B| RESERVED |
+++++
//                sub-TLVs                //
+++++

```

Segment List sub-TLV

- B-Flag(Backup Flag): one bit. It indicates the segment list acts as a pure backup path in the candidate path.

➤ List Protection Sub-TLV

```

+++++
|   Type   | Length |           RESERVED           |
+++++
|           | Backup List ID 1 |
+++++
|           |           ...           |
+++++
|           | Backup List ID N |
+++++

```

List protection Sub-TLV

- Backup List ID: the segment list id of the backup segment list, delivered via Segment List Identifier Sub-TLV [draft-lin-idr-sr-policy-seglist-id].

```

Tunnel Encaps Attribute (23)
  Tunnel Type: SR Policy
  Binding SID
  SRv6 Binding SID
  Preference
  Priority
  Policy Name
  Policy Candidate Path Name
  Explicit NULL Label Policy (ENLP)
  Segment List
    Segment List Identifier
    List Protection
    Weight
    Segment
    Segment
    ...
  Segment List
    ...
  ...

```

Next Steps

- Request review and comments

Thank You !