BGP SR Policy Extensions for Segment List Identifier

draft-lin-idr-sr-policy-seglist-id

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IETF-116
Motivation

draft-ietf-idr-segment-routing-te-policy specifies a mechanism by using BGP to distribute SR Policy to headend node. But there is **no identifier for segment list** in BGP SR Policy, and it may cause inconvenience in some scenarios:

For example:

- **✓ Reporting traffic forwarding statistic**
  
  Headend nodes collect traffic forwarding statistics per segment list and report statistic data to controller. Because there is no identifier for segment list,
  
  - **headend:** report whole segment list along with statistic
  - **controller:** compare the SID one by one to identify the segment list

- **✓ Distributing configuration of segment list**
  
  SR Policy is distributed by BGP, and configuration of segment list is distributed by NETCONF. Because there is no identifier for segment list,
  
  - **controller:** distribute whole segment list along with configuration
  - **headend:** compare the SID one by one to identify the segment list

*A simple identifier for segment list can be helpful to improve efficiency.*
Existing Segment List Identifier in PCEP and YANG

- **PCEP** *(draft-ietf-pce-multipath)*

  A segment list is identified by "Path ID", which is a 4-octet identifier.

- **YANG** *(draft-ietf-spring-sr-policy-yang)*

  A segment-list is keyed by its "name", which is a string.
This draft defines the extensions to BGP SR Policy to specify the identifier of segment list.

**Segment list Identifier** could be:

- **✓ 4 octets number**
  
  Segment List ID Sub-TLV is defined

- **✓ Name**
  
  Segment List Name sub-TLV is defined

*Both the two forms are provided to achieve better flexibility.*
Sub-TLVs for Segment List Identifier

- **Segment List ID Sub-TLV**
  
The Segment List ID sub-TLV specifies the identifier of the segment list by a *4-octet number*.

- **Segment List Name Sub-TLV**
  
The Segment List Name sub-TLV specifies the identifier of the segment list by a *name*.
Next Steps

• Any questions or comments are Welcomed
• Seeking for feedback
Thank You