Advertising SID Algorithm Information in BGP

draft-peng-idr-segment-routing-te-policy-attr

Yao Liu, Shaofu Peng@ZTE

IDR WG IETF#113 Mar, 2022

Backgroud and Motivation

When delivering SR Policy via BGP *[draft-ietf-idr-segment-routing-te-policy]*, SR algorithm can be optionally specified in Segment Sub-TLVs for:

- SR-MPLS Prefix SID
  - Type C(IPv4 Prefix with optional SR Algorithm)
  - Type D(IPv6 Global Prefix with optional SR Algorithm for SR-MPLS)
- SRv6 Prefix SID
  - Type I(IPv6 Global Prefix with optional SR Algorithm for SRv6)
- SRv6 Adjacency SID
  - Type J(IPv6 Prefix and Interface ID for link endpoints as Local, Remote pair for SRv6)
  - Type K(IPv6 Addresses for link endpoints as Local, Remote pair for SRv6)

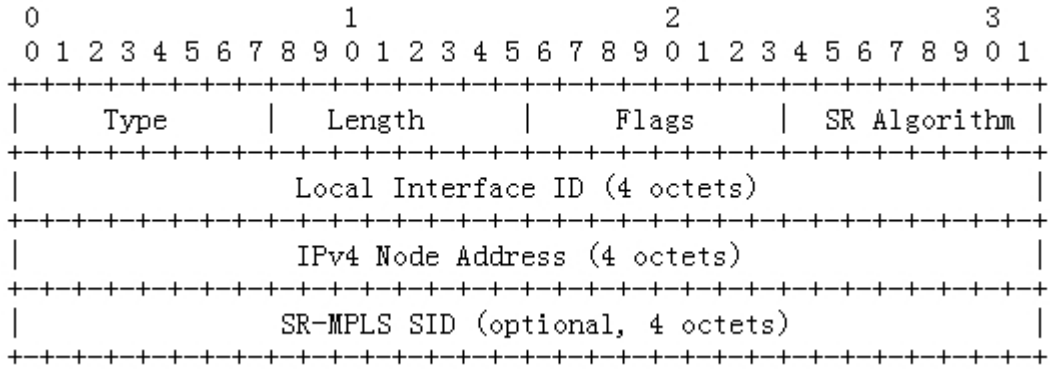
This document defines some new Segment Sub-TLVs with algorithm information to meet more requirements when delivering SR Policy via BGP.

SR-MPLS Adjacency with Optional Algorithm

[draft-ietf-lsr-algorithm-related-adjacency-sid]: the algorithm can be also included as part of an Adj-SID advertisement for SR-MPLS in IGP.

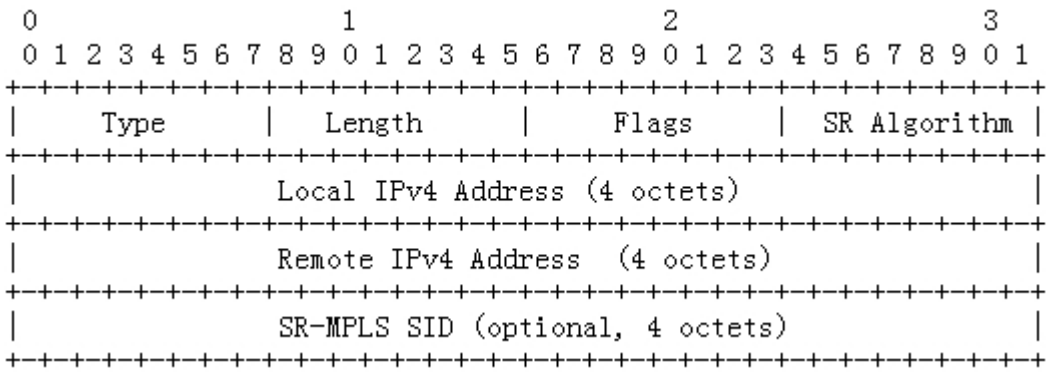
New Segment Sub-TLVs for SR-MPLS Adjacency with optional Algorithm

- Type M: IPv4 Address + Local Interface ID with optional Algorithm



Type E + Algorithm

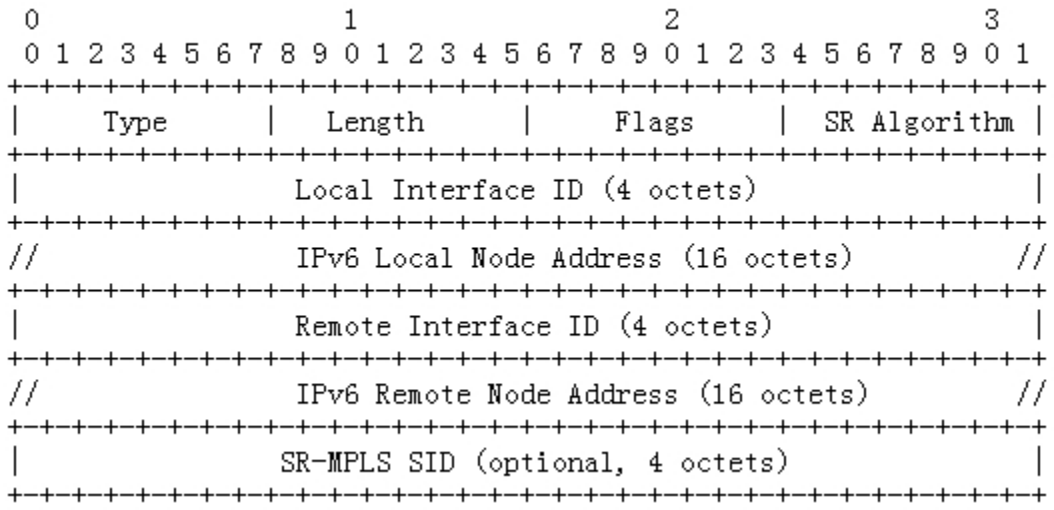
- Type N: IPv4 Addresses for link endpoints as Local, Remote pair with optional Algorithm



Type F + Algorithm

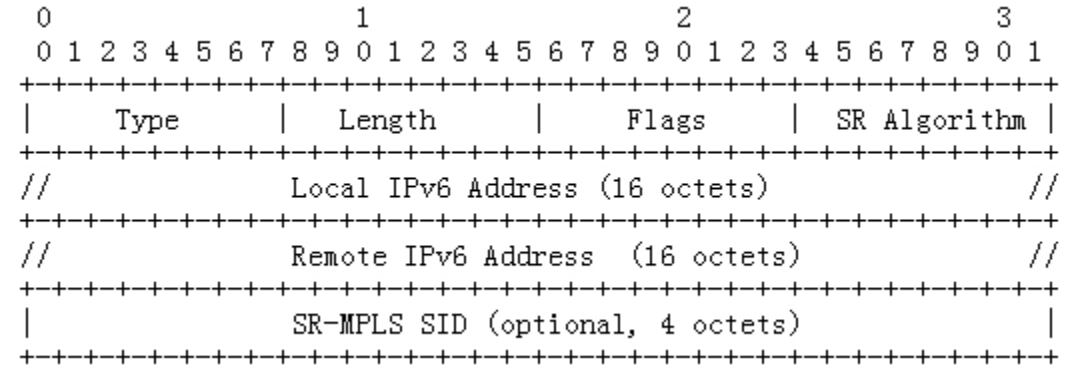
SR-MPLS Adjacency with Optional Algorithm

- Type O: IPv6 Prefix and Interface ID for link endpoints as Local, Remote pair, with optional Algorithm for SR-MPLS



Type G + Algorithm

- Type P: IPv6 Addresses for link endpoints as Local, Remote pair, with optional Algorithm for SR-MPLS

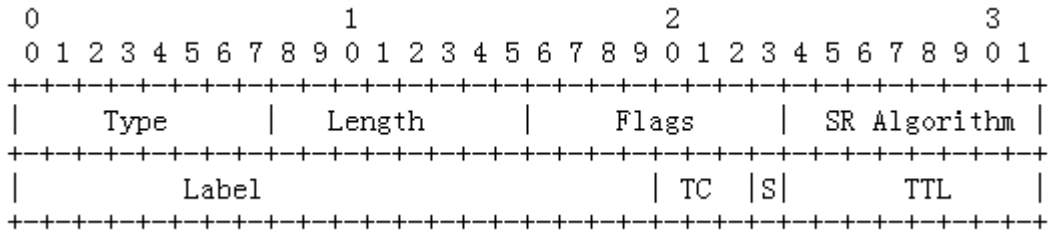


Type H + Algorithm

SID with Optional Algorithm

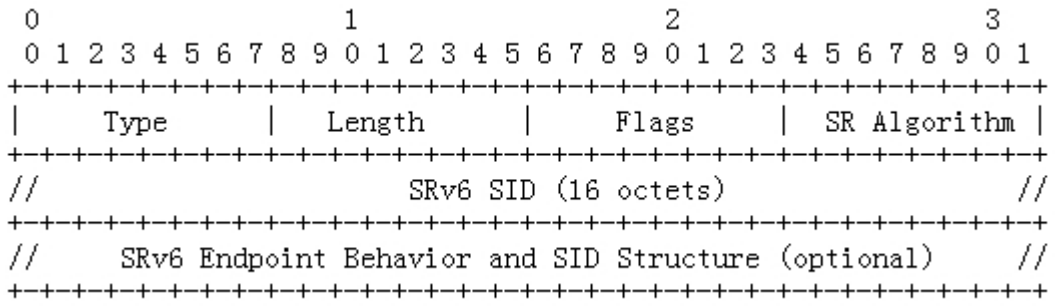
- Carrying the algorithm information along with the SIDs:
  - For verification purpose. The headend can check if the SID value and the related algorithm received can be found in its SR-DB if requested to do so.
  - For troubleshooting and network management. The headend may need to know about the SID-related algorithm, especially in the inter-domain scenario.

- Type L: MPLS SID , with optional Algorithm



Type A + Algorithm

- Type Q: SRv6 SID , with optional Algorithm



Type B + Algorithm

Next Steps

- Request feedbacks and comments

Thank You !