

Advertising SID Algorithm Information in BGP

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

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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)

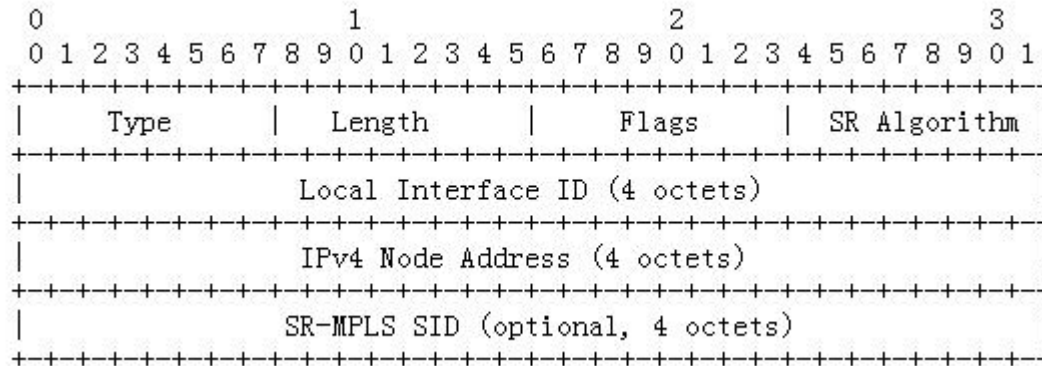
[*draft-ietf-lsr-algorithm-related-adjacency-sid*]: the algorithm can be also included as part of an Adj-SID advertisement for SR-MPLS in IGP.

This document defines new Segment Types to provide algorithm information for SR-MPLS Adjacency-SIDs when delivering SR Policy via BGP.

SR-MPLS Adjacency with Optional Algorithm

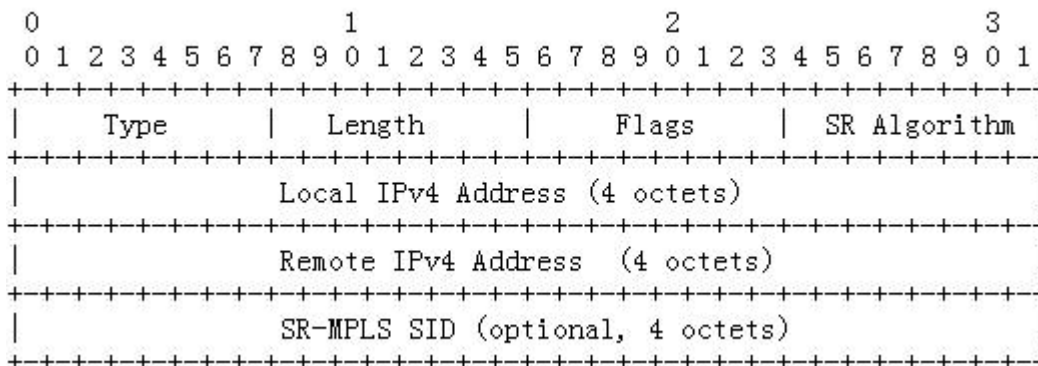
New Segment Sub-TLVs

- Type M: IPv4 Address and 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

0				1				2				3											
0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1		
Type				Length				Flags				SR Algorithm											
				Local Interface ID (4 octets)																			
//				IPv6 Local Node Address (16 octets)																//			
				Remote Interface ID (4 octets)																			
//				IPv6 Remote Node Address (16 octets)																//			
				SR-MPLS SID (optional, 4 octets)																			

Type G + Algorithm

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

0				1				2				3																							
0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1														
				Type								Length								Flags								SR Algorithm							
//				Local IPv6 Address (16 octets)																//															
//				Remote IPv6 Address (16 octets)																//															
				SR-MPLS SID (optional, 4 octets)																															

Type H + Algorithm

Main Updates Since 113

- This draft now only focuses on advertising SR-MPLS Adjacency-SIDs with algorithm based on Ketan's comments.
- The names of the new Segment Sub-TLVs are modified to be align with existing segment types.
- The definition of the fields in the new Segment Sub-TLVs are complemented.

Next Steps

- Ask for review and comments
- WG Adoption?

Thank You !