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

  
<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>Flags</th>
<th>SR Algorithm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Interface ID (4 octets)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPv4 Node Address (4 octets)</td>
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<td></td>
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<tr>
<td>SR-MPLS SID (optional, 4 octets)</td>
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</tr>
</tbody>
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  Type E + Algorithm

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

  
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<th>Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Local IPv4 Address (4 octets)</td>
<td></td>
<td></td>
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<tr>
<td>Remote IPv4 Address (4 octets)</td>
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<tr>
<td>SR-MPLS SID (optional, 4 octets)</td>
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</tbody>
</table>
  
  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
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!