BGP extensions for SRv6-VPN

draft-dawra-idr-srv6-vpn-00

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Agenda

- Problem
- Solution
MUST READ !!!!!!!

draft-filsfils-spring-srv6-network-programming

Also Read

draft-ietf-6man-segment-routing-header
draft-ietf-idr-bgp-prefix-sid-04
Agenda

• Problem
• Solution
What we want to do

• Enable segment routing over IPv6 Dataplane

• Advertise segments IDs (SIDs) and associated functions

• Reduce overhead in migration of brownfield deployments.
Agenda

- Problem
- Solution
Proposed BGP Extensions

- Extend Prefix-SID Attribute with new SRv6-VPN TLV
### SRv6-VPN TLV

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Type</th>
<th>Length</th>
<th>RESERVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SID Type (1 Octet)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type is TBD**

**Length:** 16bit field. The total length of the value portion of the TLV.

**RESERVED:** 8 bit field. SHOULD be 0 on transmission and MUST be ignored on reception.
L3VPN SID encoding in SRv6-VPN TLV

SRv6 SID information is encoded as follows:

+---------------------------------------+   +---------------------------------------+
| SID Type (1 Octet)                   |   | SRv6 SID (16 octet)                  |
+---------------------------------------+   +---------------------------------------+

- **Type-1** - corresponds to the equivalent functionality provided by an VPN Label attribute when received with a route containing a label[RFC4364].
- Container for advertising SRv6 function associated with a SID.
- VPN Label is encoded as SRv6 SID function parameter
- Used to advertise SRv6 SIDs associated with VPN (details in SRv6 network programming document)

End.DX4/DT4
End.DX6/DT6

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Draft: Next Steps

• Seeking WG input and feedback
• Suggestions/comments are welcome!!