

draft-omar-alsp-00
Internet-Draft
Intended status: Standard Track
Expires: October 16, 2020

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April 16, 2020

**ASN Label Switching Protocol (ALSP)
Specification
draft-omar-alsp-00**

Status of this Memo

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Abstract

This document specifies ASN Label Switching Protocol (ALSP).

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- PE: Provider Edge.
- ASN: Autonomous System Number.
- IGP: Interior Gateway Protocol.
- eBGP: External Boarder Gateway Protocol.

- CE1 has ALSP enabled on the interface connected to PE1.
- Similarly, CE2 has ALSP enabled on the interface connected to PE2.
- Also, all the ALSP cloud routers have ALSP enabled globally.
- ALSP enabled interface means that the IGP or EGP advertisements through this interface can have the ALSP header which is the ASN configured on the IGP or EGP.
- Consider that Customer-A's Site-1 has a subnet 10.1.1.0/24 that needs to be advertised to Site-2.
- The 10.1.1.0/24 subnet is learned by CE1 through IGP-1.
- The engineer first should advertise this subnet through BGP and MUST configure the ASN so it can be added to the advertised update messages.
- When PE1 receives the BGP update with ASN 100, if it doesn't have a VRF table for ASN-100, AUTOMATICALLY it will create a VRF instance with a naming convention VRF-ASN, so in this case it will be VRF-100.

- Now, PE1 has a VRF-100 table with 10.1.1.0/24 learned by BGP.
- The engineer MUST redistribute BGP into IGP-2 and adds the ASN of Customer-A to the configuration.
- Through IGP-2, all routers within ASN-300 will learn about the subnet 10.1.1.0/24.
- Each router within the ALSP cloud receives the update takes one of the following actions:
 - a) If there is no VRF table for that ASN, it will create one and add the learned subnet to that VRF table.
 - b) If there is already created VRF table for that ASN, it will only add the learned subnet to that VRF table.
- Now, consider that PE2 received the update through IGP-2 and it has not any VRF for that ASN that is associated with the update message, it will create a new VRF table called VRF-100 and add 10.1.1.0/24 to that table.
- Now, the engineer should advertise 10.1.1.0/24 subnet to CE2 using BGP and MUST configure the ASN of that VRF.
- When CE2 receives 10.1.1.0/24 subnet with ASN-100 in the header via BGP, the engineer MUST redistribute the BGP learned subnet into IGP-3 normally.

Security Considerations

Acknowledgments

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