

SRv6-based BGP Service Capability

draft-lz-bess-srv6-service-capability

Yao Liu, ZTE--Presenter
Zheng Zhang, ZTE
Eduard Metz, KPN
Yisong Liu, China Mobile

BESS WG

IETF#121

Nov, 2024

Background

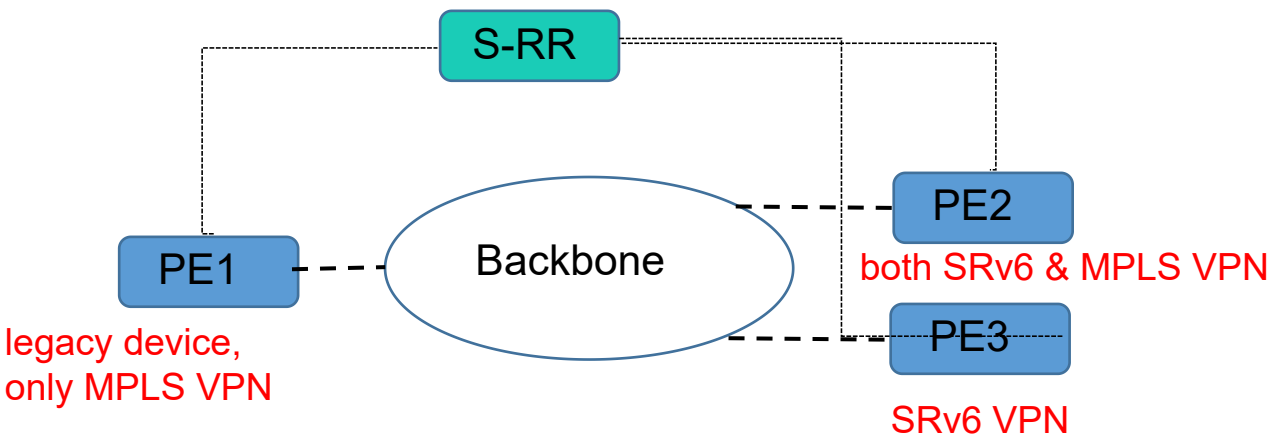
- SRv6 based BGP services [RFC9252]
 - reuses the existing AFI/SAFIs and NLRI for MPLS VPN
- Encoding of SRv6 service SIDs:
 - the whole SRv6 SID in the SRv6 Services TLV, the MPLS Label field of the NLRI set to Implicit NULL
 - locator carried in SRv6 Services TLV, function and/or argument in the MPLS Label field of the NLRI
- Potential Risks in the MPLS SRv6 Co-existence Scenario
 - legacy devices capable of MPLS only may discard the unrecognized SRv6 Services TLV after receiving the route, and process it as an MPLS VPN route
- Specification in [RFC9252] to avoid the problem above
 - Implementations **MUST** provide a mechanism to **control** advertisement of SRv6-based BGP service routes **on a per neighbor and per service basis**.

MP-BGP NLRI
BGP Prefix-SID Attribute
SRv6 Service TLV
(the whole/part of SRv6 Service SID)

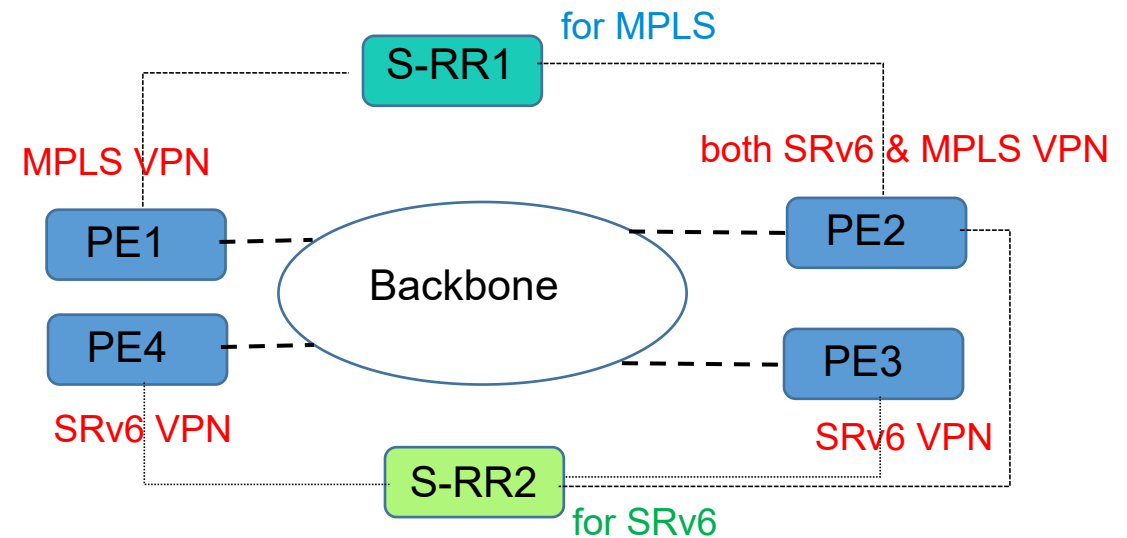
Some Current Methods for SRv6 Route Advertisement Control

Mainly by network planning and configuration

Shared S-RR



Separated S-RRs



Disadvantages :

- Per neighbor configurations need to vary with the device capability.
- Additional steps increase the possibility of faults and the difficulty of troubleshooting.
- Possible interconnection problems among multiple vendors.

A New SRv6-based BGP Service Capability

- The Capabilities Optional Parameter [RFC5492] in the BGP OPEN message allows BGP speakers to communicate capabilities.
- A new Capability Code for SRv6-based BGP service capability.
 - A BGP speaker MUST NOT send any UPDATE message that includes the SRv6 service TLVs, unless it has sent the SRv6-based BGP service capability in its BGP OPEN message, or it has received the SRv6-based BGP service capability in the BGP OPEN message from its peer.
 - If the capability for SRv6-based services is enabled or removed, an established session needs to be reset to resend the OPEN message.

Service route controlled automatically & Easy to implement

Next Steps

- Request feedbacks and comments

Thank You !