Using IS-IS MT for Segment Routing based VTN

draft-ietf-lsr-isis-sr-vtn-mt-03

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Background

- A VTN is a virtual underlay network with the required topology and resource characteristics
 - Introduced in *draft-ietf-teas-enhanced-vpn*
 - In the context of network slicing, this concept is similar to the Network Resource Partition (NRP) defined in draft-ietf-teas-ietf-network-slices
- Resource-aware SR SIDs represent different sets of resources allocated on network segments for packet processing
 - Can be used to build SR VTNs as described in *draft-ietf-spring-sr-for-enhanced-vpn*
- This document describes the mechanism of applying MT to build SR VTNs
 - Applicable to networks where the required number of VTN is small

Mechanism in this draft

- Each VTN is associated with an independent topology
 - MT-ID is reused as the control plane identifier of VTN
- Use IS-IS Multi-topology (RFC 5120) for the advertisement of VTN topology and VTN specific TE attributes
 - Topology-specific SR-MPLS SIDs or SRv6 Locators/SIDs are also advertised based on IS-IS SR and SRv6 extensions defined in RFC 8667 and draft-ietf-lsr-isis-srv6-extensions
 - Topology-specific link bandwidth is advertised for different VTNs
 - Other TE attributes may also be advertised in topology specific manner

Updates Since WG Adoption (-01 to -03)

- Clarifies that both resource-aware SIDs and normal SR SIDs can be used with this mechanism to build SR based VTNs
- Polishes the text about the forwarding plane operations
- Describes the scalability considerations and the targeted network scenarios
- Some editorial changes



- The content of this document is stable
- Initial implementation shows this mechanism works well
- Review and comments and welcome
- Ready for WG LC

Thank You