Using IS-IS MT for Segment Routing based VTN

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

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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
Next Steps

• 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