draft-filsfils-spring-segment-routing-policy-05

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Scope of the Document

• SR Architecture document specifies various Segment Types.
• This document is a companion of the SR Architecture that introduces the notion of SR Policy as a stack of segments encoded in the packet
• This document architecturally defines the SR Policies construct that applies to the following:
  • MPLS and SRv6 data-planes
  • Traffic Engineering
  • Network Function Virtualization
  • Layer 2 networks
  • Optical networks
  • Multicast (TreeSID)
• It defines the various flavors of Steering into SR Policies
• It specifies traffic accounting for SR Polices
Key Attributes of SR Policies

• Applicable to both SR-MPLS and SRv6 data planes.
• State is only at the head-end not all over the fabric.
• Leverages ECMP; not “hop-by-hop” or “circuit-oriented”.
• Includes topological and service segments (TE+NFC).
• Supports automated instantiation of policies (locally and via controllers).
• Enables steering mechanism for the overlay service integrated with the underlay SLA guarantees
• Integrates IP/MPLS, Layer 2 and Optical.
Binding SID (BSID)

• Provides scaling, network opacity and service independence
• BSID-keyed entry in the forwarding plane for SR Policy is vital for the steering use-cases.
Steering into SR Policies

• Incoming packets have an active SID matching a local BSID at the head-end.
• Per-destination steering: incoming packets match a BGP/Service route which recurses on an SR policy
  • Automated Steering for BGP services
  • On-demand SR Policies and steering for BGP services
• Per-flow Steering: incoming packets match or recurse on a forwarding array where some of the entries are SR Policies.
• Policy-based Steering: incoming packets match a routing policy which directs them on an SR policy.

These mechanisms are defined since 00 version; later versions addresses comments received and provides more details
Status

• Version 00 was presented a year ago @ IETF 98
• Since then document has matured with contributions from multiple vendors and operators
  • Document has been updated to address comments, provide clarifications and details.
• The document have multiple existing implementations
• The document have ongoing deployments/trials
Next Steps …

• Solicit WG review and comments/inputs/feedback.
• The authors would like to request the WG adoption for this draft.