Segment Routing for Service Chaining

draft-xuclad-spring-sr-service-chaining-01

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Agenda

• Summary of changes
• SR-MPLS service segments
• SRv6 service segments
• Service segments in SR architecture
• Implementation
• Next steps
Summary of changes

• Merging of
  • draft-xu-mpls-service-chaining and
  • draft-clad-spring-segment-routing-service-chaining

• Aligning terminology with SR architecture docs

• Adding SRv6 endpoint types table
  • Values to be assigned by IANA
SR-MPLS service segments

• SID allocated on an SR-MPLS aware router connected to the service
  • Send with label stack to MPLS capable service
  • Use proxy function to remove SR information before sending to MPLS unaware service

• SID can be allocated from local or global label pool depending on the use-case
SRv6 service segments

• SID instantiated on an SRv6 router / host connected to the service
  • Send with SRH to SRv6-capable device
  • Use proxy function to remove / hide SRH before sending to SRv6 unaware service

• SID instantiated on an SRv6 aware service
  • Traffic processing depends on the SID
Service segments in SR architecture

Just another type of segment

• Stateless in the fabric
• Seamless integration with VPN and/or TE
• Service is opaque to the head-end and intermediate nodes
Implementation

• Proxy functions
  • Linux (srext kernel module)
  • FD.io VPP (18.04)

• SR-capable open-source services
  • iptables
  • nftables
  • Snort
Next steps

• Seeking WG input and feedback
• Suggestions/comments are welcome!