Path Segment used in SR and MPLS Interworking

draft-xiong-mpls-path-segment-sr-mpls-interworking-01.txt

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Path Segment

- Path Segment defined in [ietf-spring-mpls-path-segment] has been proposed and adopted in Spring WG
  - Path Segment (Path ID/PSID) is introduced for SR path identification.
    - Performance measurement
    - Bidirectional path correlation
    - End-to-end Path Protection
- Path Segment MAY be used to provide end-to-end bidirectional VPN service in SR and MPLS interworking scenario.
  - Path correlation MAY be used to achieve the path stitching.
    - Bidirectional Path Correlation
    - Inter-domain Path Correlation
  - Path Segment MAY be defined to identify an MPLS-TE tunnel and MPLS-TE label list.

![Figure 1: Label Stack with Path Segment](image-url)
SR and MPLS Interworking with Path Segment

Super Controller

SR Domain Controller

MPLS Domain Controller

SR Domain Controller

SR and MPLS Interworking with Path Segment

Path Segment-1(1->9)
Path Segment-1'(9->1)
Path Segment-2(1->9)
Path Segment-2'(9->1)
Path Segment-3(1->9)
Path Segment-3'(9->1)

E2E Bidirectional VPN Service

✓ Path Bidirectional correlation: Node 1 (1 and 1') and 9 (3 and 3')
✓ Path Inter-domain correlation: Node A (1 and 2)/X (2' and 1'), Z (2 and 3) and Y (3' and 2')
Comments from last meeting

• Clarification
  • In the nesting model, the BSID and path segment can be combined to achieve the inter-domain stitching and path monitoring.
  • In the stitching model, the stitching of path segments could be used to achieve the inter-domain stitching and path monitoring.
  • The SR and MPLS domains may be deployed incrementally and independently and the stitching model may be appropriate for this scenario.

• Comparison with BSID
  • The BSID could be bound to a SID List or selected path and used to stitch the service across multiple domains.
  • All of the BSIDs MUST be provided and pushed onto the label stack at the headend but not all of them are popped at an edge node.
Next Step

- Further updates as per WG feedback.

- Comments and discussions are very welcome!
Thank you!