draft-ietf-spring-segment-routing-policy-09

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Overview

SR Policy Architecture draft covers:
• SR Policy Framework & Information Model
• Segment Routing Database used for SR Policy
• SR Policy Segment Types
• Validation of Candidate Path and Selection of Active CP
• Binding SID Concept & Usage
• Steering Mechanisms for SR Policy
• Protection Mechanisms
Draft Progression

- Individual draft first presented at IETF 98
- Adopted as WG document after IETF 101
- Was last presented at IETF 108

- Draft has wide spread implementation across multiple vendors and deployments with multiple operators

- Draft is one of the milestones for the WG and lot of documents in Spring and other WGs have dependencies on it
Summary of Updates

• Composite Candidate Path construct is introduced
• Updates to the SRv6 Segment Types and BSID
  • Alignment with SRv6 Network Programming Draft
• Clarification about handling of colors and BGP multi-path scenarios
• Clarification on TI-LFA considerations
• Other editorial updates to fix nits

Thanks for the review and inputs from the WG for driving these updates
Composite Candidate Path – Motivation

• SR Policy has a dynamic candidate path that expresses its objectives
  • e.g. affinity for nodes/links that form the blue (or red or green) plane
  • Flows for Service P may be steered over SR Policy A (e.g. using BGP) to stay in the blue plane
  • Flows for Service Q may be steered over SR Policy B (e.g. using BGP) to stay in the red plane
• We have use-cases where a Service R flows need steering (in a load-balanced manner) over different paths
  • Load-share (say 70:30) between blue and red planes
• Another Service S flows may need similar steering over different set of paths
  • Load-share (say 40:60) between blue and green planes

• Composite Candidate Path provides the solution that enables combination of individual path objectives and have a load-balanced steering over the path combination
Composite Candidate Path

• SR Policy has CPs of two types today: Explicit & Dynamic
  • Introduce a new type – Composite Candidate Path

```
SR policy POL100 <headend = H1, color = 100, endpoint = E1>
  Candidate-path CP1 <protocol-origin = 20, originator = 100:1.1.1.1, discriminator = 1>
    Preference 200
    Weight W1, SR policy <color = 1>
    Weight W2, SR policy <color = 2>
```

• Enables combinations of paths with different objectives
• Unit of signalling via protocol remains the Candidate Path
• Existing rules for selection of Candidate Path and overall framework is unchanged
Discussion on Color Usage

• All SR Policies have a color associated with them
  • Part of the identification of the SR Policy

• Draft defines various steering mechanisms over SR Policies
  • BGP based mechanisms leverage Color
  • Other mechanisms like BSID do not
  • Still other mechanisms may or may not leverage Color (implementation specific)

• Discussion points:
  a) Do we need to allocate/reserve a separate block for non-BGP steering use-cases?
  b) Do we allow the operator to manage colors based on their deployment designs?
Next Steps …

- Progressing towards WGLC … are we ready?