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?