SRv6 Policy Selector
draft-yang-srv6ops-policy-selector

Presenter: Feng Yang (China Mobile)

Co-authors: Changwang Lin (New H3C Technologies)

IETF-124

Motivation

RFC9256: A candidate path is either dynamic, explicit, or composite. The composite candidate path construct enables the combination of SR Policies. We consider SRv6 in this proposal.

Parent SRv6 Policy
- Path (dynamic)
- Path (explicit)
- Path (composite)
  - Color X
  - Color Y
  - Color Z

Flow characteristics can be used to select the corresponding Color-based SRv6 Policy, but it remains unclear how to handle failures or performance degradation of constituent members in a composite path when the SRv6 Policy degrades or fails.

- Parent SRv6 Policy:
  - Same with composite SRv6 Policy, which consists of constituent SRv6 Policies with different color.

Revision History

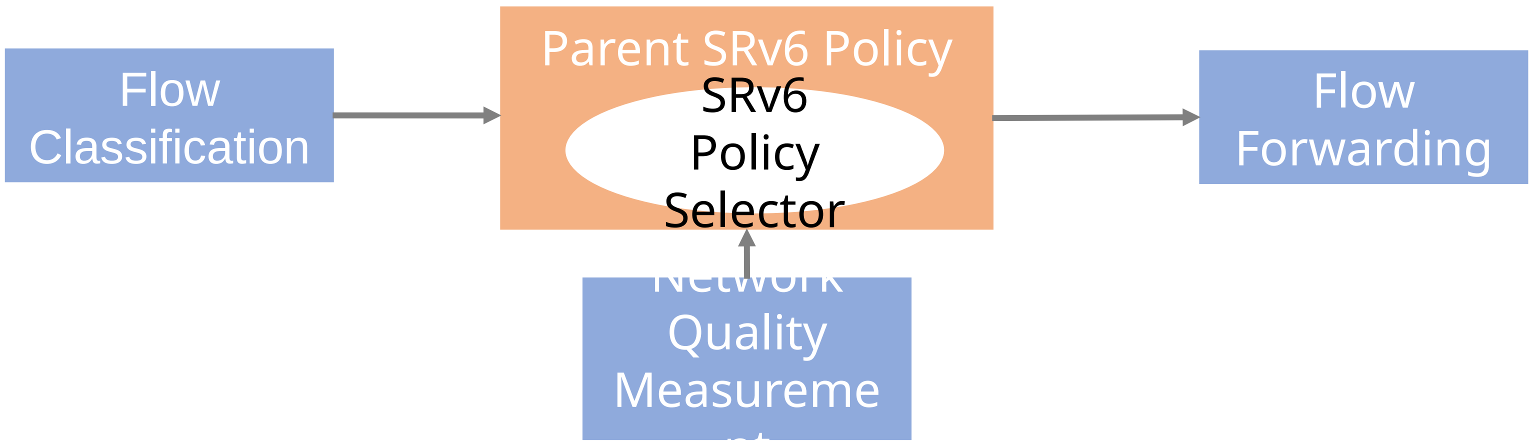
- This proposal was presented in IETF 115 in SPRING WG.
- Moved to SRv6OPS since it does not have any protocol extension in IETF 123.
- Updated per comments from SRv6OPS chairs.

Overview

Once traffic is steered onto the parent SRv6 Policy, SRv6 Policy Selector will make decision on the forwarding constituent SRv6 Policy.

Decision is made based on measurement:

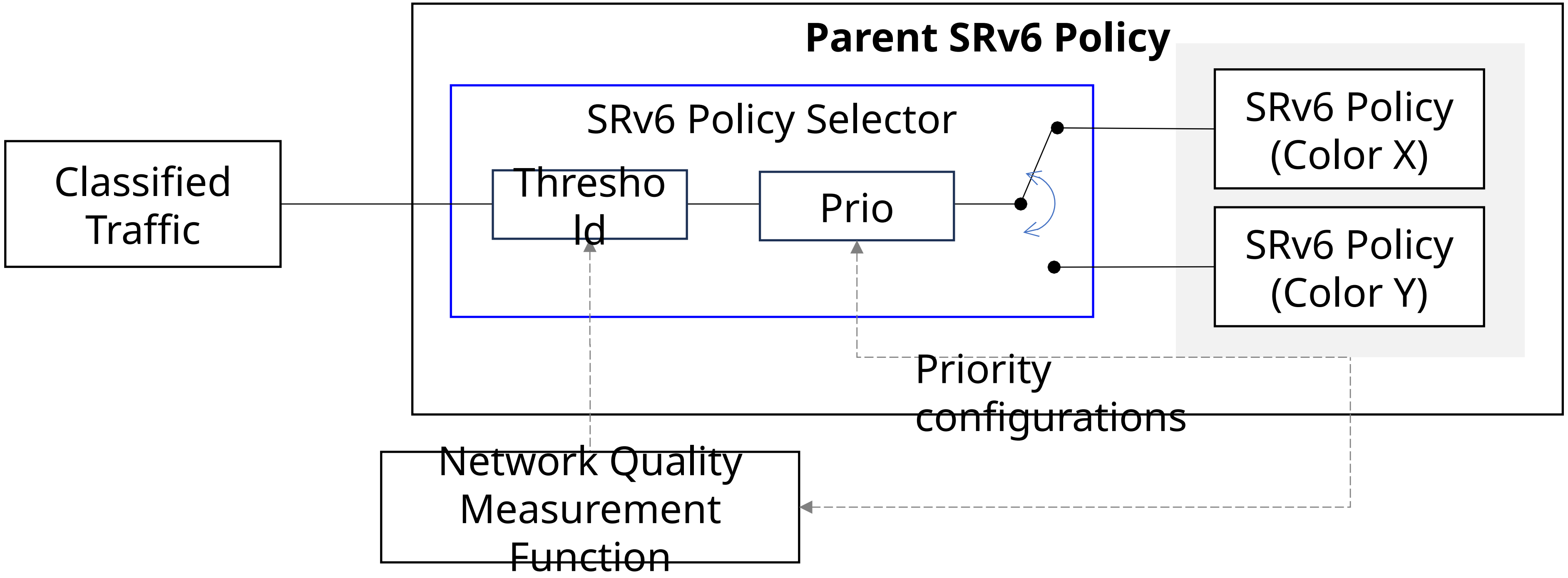
- Network Quality Measurement: monitor the failure/quality of all available constituent SRv6 Policies.



SRv6 Policy Selector

There are 2 parameters for SRv6 Policy Selector, i.e. quality threshold, priority. SRv6 Policy selection is worked in the following way:

- Select the a set of constituent SRv6 Policies that meet the quality threshold.
- Select the constituent SRv6 Policy with lower priority number.



Use case

This example shows the configuration of SRv6 Policy Selector fulfilling service requirements

- Service 1: conference: low loss
- Service 2: crm: low latency

1. Parent SRv6 Policy:
parent-sr-policy sr-policy-1(color 10, PE2_SID)
service conference use routing-policy-selector irp1
service crm use routing-policy-selector irp2

2. Constituent SRv6 Policy:
sr-policy path1 (color 100, PE2_SID)
segment-list <SID_P1, SID_P2, SID_PE2>
segment-list <SID_P3, SID_P4, SID_PE2>
sr-policy path2 (color 200, PE2_SID)
segment-list <SID_P5, SID_P6, SID_PE2>

3. SRv6 Policy Selector:
routing-policy-selector irp1
traffic-loss-rate threshold 0.01
priority 1 mapping-to color 100
priority default mapping-to color 200
routing-policy-selector irp2
traffic-average-delay threshold 200ms
priority 1 mapping-to color 200
priority default mapping-to color 100

Next Steps

- If no objections, we will request for WG adoption as informational draft