Anycast Prefix Segments in MPLS-based SPRING

draft-psarkar-spring-mpls-anycast-segments-01

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Summary

• Additional Contributors
• Proposed Solution – Update
  – Terminologies
  – Procedures
Additional Contributors

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More Definitions

• Common Anycast SRGB (CA-SRGB)
  - Identifies the **SRGB implemented by majority of the network devices** participating in one or more anycast group(s).
  - All devices in network MUST allow operator to set it
    • When set,
      - The **operator should set the same value on all devices**.
      - The device **need not allocate the same range for the local SRGB**. The CA-SRGB may or may not be same as the local SRGB.
    • If not set explicitly, the CA-SRGB should be assumed to be same as the local SRGB.
Problem Statement

How to compute the label that represents the next segment?
Proposed Solution

- Step 1: Devices originating any anycast prefix segments that does not have same local SRGB as the CA-SRGB
  - Create a Virtual L-FIB lookup table
    - Map all remotely learnt node/anycast prefix segment index to corresponding downstream label and next-hop.
Proposed Solution

- Step 2: Devices originating any anycast prefix segments *that does not have same local SRGB as the CA-SRGB*
  - Originate IGP advertisement for anycast prefix SID with (**No-PHP = 1** and **Exp-Null = 0**).
  - Ensures the packet arrives with anycast prefix segment label allocated for it. **Penultimate-hop does not POP** the label, but replaces it.
Proposed Solution

• Step 3: Devices originating any anycast prefix segments *that does not have same local SRGB as the CA-SRGB*
  - For the anycast segment label in the global LFIB table.
    • Install a **Lookup into the Virtual LFIB** created in Step 1.
Proposed Solution

- Step 4: Ingress device using Anycast prefix segments
  - For the prefix segment next that follows a anycast prefix segment.
  - Use the prefix segment index as offset into CA-SRGB range to compute the label to be used.
Next Steps

• Comments/Questions/Suggestions?
• WG Adoption.
THANK YOU