PCEP Extension for Stateful Inter-Domain Tunnels

Olivier Dugeon & Julien Meuric (Orange Labs)
Y. Lee (Samsung)
D. Ceccarelli (Ericsson)
draft-ietf-pce-stateful-interdomain-01
Update since previous versions

• Version 00:
  • Working Group adoption based on draft-dugeon-pce-stateful-interdomain-04.txt

• Version 01:
  • Take into account comments received during the WG call adoption
    • Except the comment about the implementation option
Implementation requirements

- The stitching label principle requires at least a certain number of modifications in the current PCEP version
  - A new PCE Capability to announce the inter-domain behavior
  - A new PCE Association Group to associate the local paths identifier to the inter-domain identifier
  - A new PCEP Errors message to manage the Stitching Label exchange
  - A mechanism to convey the Stitching Label
    - The WG should choose between several options
Technical solution to convey Stitching Label

• Use ERO and RRO in conjunction to new Path Setup code points
  • Solution proposed in the current version of the draft
  • Pro: Simplest implementation
  • Cons: As mention by Dhruv, each time a new path enforcement appear, a new PST code point must be allocated (e.g. new Segment Routing v6)

• Use ERO and RRO in conjunction to a new flag in LSP
  • Pro: Simple as PST code points
  • Cons: Need to use the new LSP Extended Flag sub-Object
  • Alternate solution: find another place for the flag e.g. SRP or LSPA Object

• Define a new PCEP sub-Objet TLV within the LSP to convey the stitching label
  • Pro: More independent and explicitly convey the Stitching Label
  • Cons: Need extra parsing in the PCEP Grammar from an implementation point of view
New Stitching Label sub-Object format

<table>
<thead>
<tr>
<th>Flag</th>
<th>N</th>
<th>R</th>
<th>T</th>
<th>TS</th>
<th>Stitching Label (20 bits)</th>
</tr>
</thead>
</table>

- **Type (16 bits)**
- **Length (16 bits)**

- **Stitching Label (20 bits)**: Must equal to 0 for request
- **TSC (3 bits)**: Traffic Class for the Stitching Label if T flag is set
- **Flags (8 bits):**
  - **R**: Request Stitching Label
  - **T**: Traffic Class must be used
  - **N**: Nested path