PCEP extensions for Circuit Style Policies

draft-sidor-pce-circuit-style-pcep-extensions

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Motivation

• Circuit Style Segment-Routing Policy
  • Designed to satisfy requirements for connection-oriented transport services
    • Often delivered using SONET/SDH or OTN networks
    • Details described in draft-schmutzer-pce-cs-sr-policy

Requirements covered by new PCEP extensions
• path persistency
• hop-by-hop behavior
Draft content summary

• Ability to request path from PCE consisting exclusively of strict hops
  • New flag for Stateful PCEP messages
  • Existing flag for PCReq and PCRep clarified for Segment-routing
    • Strict hop means adjacency SID
• Block re-computation based on specific triggers
  • Topology update
  • Periodic timer
Strict path – Stateless messages

• Existing O flag in RP object clarified for Segment-routing

O (strict/loose - 1 bit) – If strict SR path is requested, then only Adjacency SIDs MUST be used
Strict path – Stateful messages

• New flag in LSP-EXTENDED-FLAG TLV in LSP object

```
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-----------------------------------------------+
|                       Type=TBD1                |
+-----------------------------------------------+
|                             Length            |
+-----------------------------------------------+
|                                                |
```

// LSP Extended Flags

• O flag
  • If set, path exclusively made of strict hops is required
  • If cleared, loose path is acceptable
Blocking path computation triggers

• New TLV RECOMPUTATION-TRIGGERS TLV in LSP object

| Type = TBD2 | Length = 4 |

T flag
• If set to 1, the PCE MUST NOT trigger path computation as a result of updated topology information

P flag
• If set to 1, the PCE MUST NOT trigger path computation based on any periodic timer
Next steps

• Comments and discussion are welcome