

A YANG data model for Segment Routing in IPv6 (SRv6) support in Path Computation Element communications Protocol (PCEP)

draft-li-pce-pcep-srv6-yang-01

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PCEP - SRv6

PCEP for
SR-MPLS

- RFC 8664

PCEP for
SRv6

- I-D.ietf-pce-segment-routing-ipv6

PCEP-YANG

- I-D.ietf-pce-pcep-yang
- Support SR-MPLS
- Near WG-LC

PCEP-YANG
for SRv6

- This I-D

PCEP - SRv6

- Use of PCE (and PCEP) to compute (and convey) SRv6 paths
- Capability Advertisement
 - *SRv6 PCE Capability sub-TLV*
- A new Path Setup Type (PST)
- A new ERO/RRO sub-object for SRv6
 - *Called SRv6-ERO and SRv6-RRO sub-object*
- Refer [I-D.ietf-pce-segment-routing-ipv6]

PCEP YANG Structure

- Entity
 - *The local PCEP speaker*
- Peer
 - *The remote PCEP speaker*
- Session
 - *The current PCEP session between local and remote PCEP speakers*
- SR-MPLS
 - *Capability at entity and peer level*
 - *PST for LSP and a reference to the TE model*

```
module: ietf-pcep
+--rw pcep!
  +--rw entity
    +--rw addr inet:ip-address
    ...
  +--rw capability
    ...
    | +--rw sr {sr}?
    |   +--rw enabled? boolean
    |   +--rw msd-limit? boolean
    |   +--rw nai? boolean
  +--rw msd? uint8 {sr}?
  +--rw pce-info
  ...
  +--ro lsp-db {stateful}?
  | +--ro db-ver? uint64 {sync-opt}?
  | ...
  | +--ro lsp* [plsp-id pcc-id lsp-id]
  |   +--ro plsp-id uint32
  |   +--ro pcc-id inet:ip-address
  |   +--ro source?
  |     -> /te:te/lsp-state/lsp/source
  | +--ro destination?
  |   -> /te:te/lsp-state/lsp/destination
  | +--ro tunnel-id?
  |   -> /te:te/lsp-state/lsp/tunnel-id
  | +--ro lsp-id
  |   -> /te:te/lsp-state/lsp/lsp-id
  | +--ro extended-tunnel-id?
  |   -> /te:te/lsp-state/lsp/extended-tunnel-id
  | +--ro pst? identityref
  ...
  +--rw peers
    +--rw peer* [addr]
    +--rw addr inet:ip-address
    ...
    | +--rw sr {sr}?
    |   +--rw enabled? boolean
    |   +--rw msd-limit? boolean
    |   +--rw nai? boolean
  +--rw msd? uint8 {sr}?
  ...
  +--ro sessions
    +--ro session* [initiator]
    +--ro initiator pcep-initiator
    ...
```

PCEP - SRv6 YANG

- A new PST identity type
- Augment Capability at entity and peer level
 - *Capability enabled*
 - *Multiple MSD types*
- Augment the LSP container in LSP-DB
 - *For SRv6 paths, the segment list is added*

```
module: ietf-pcep-srv6
  augment /pcep:pcep/pcep:entity/pcep:capability:
    +--rw srv6 {srv6}?
      +--rw enabled?      boolean
      +--rw msd-limit?    boolean
      +--rw srv6-msd* [msd-type]
        +--rw msd-type    uint8
        +--rw msd-value?  uint8
  augment /pcep:pcep/pcep:entity/pcep:peers/pcep:peer
    /pcep:capability:
      +--rw srv6 {srv6}?
        +--rw enabled?      boolean
        +--rw msd-limit?    boolean
        +--rw srv6-msd* [msd-type]
          +--rw msd-type    uint8
          +--rw msd-value?  uint8
  augment /pcep:pcep/pcep:entity/pcep:lsp-db/pcep:lsp:
    +--ro srv6 {srv6}?
      +--ro segment-list
        +--ro segment* [index]
          +--ro index      uint32
          +--ro sid-value?  srv6-types:srv6-sid
```

Next Step

- Request more reviews especially the implementers and operators of SRv6.
- The work is in scope of PCE WG and is in stable condition
 - *Candidate for WG adoption?*



THANK YOU!