A YANG DATA MODEL FOR PCEP

draft-ietf-pce-pcep-yang-02

https://github.com/dhruvdhody-huawei/pcep-yang

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Introduction

Yang Data Model		
	Management of PCEP speakers	Configurations
		State
	PCEP as per RFC 5440	Aligned to PCEP MIB
	Extensions	Stateful PCE, SR, SVEC, OF, GCO, P2MP…
	Statistics	Moved as a separate model
		Augments the base model

Recent Changes

- A new "ietf-pcep-stats" module that augments "ietf-pcep"
- Changes in other models
  - ietf-te
  - ietf-key-chain
- Fixed various issues
  - x-path validation failures
  - Use of when statement v/s must statement
- RPC for trigger re-sync
  - So that operator can have a mechanism to trigger session re-synchronization

Statistics

A separate module that augments ietf-pcep's state!

```
module: ietf-pcep-stats
  augment /p:pcep-state/p:entity/p:peers/p:peer:
    +--ro num-sess-setup-ok?     yang:counter32
    +--ro num-sess-setup-fail?   yang:counter32
    +--ro pcep-stats
       +--ro avg-rsp-time?                uint32
       +--ro lwm-rsp-time?                uint32
       +--ro hwm-rsp-time?                uint32
       +--ro num-pcreq-sent?              yang:counter32
       +--ro num-pcreq-rcvd?              yang:counter32
       .
       .
       +--ro svec {p:svec}?
       |  .
       |  .
       +--ro stateful {p:stateful}?
       |  .
       |  .
       |  +--ro initiation {p:pce-initiated}?
       |     .
       |     .
       +--ro path-key {p:path-key}?
       |  .
       |  .
```

```
augment /p:pcep-state/p:entity/p:peers/p:peer/p:sessions/p:session:
  +--ro pcep-stats
     +--ro avg-rsp-time?                uint32
     +--ro lwm-rsp-time?                uint32
     +--ro hwm-rsp-time?                uint32
     +--ro num-pcreq-sent?              yang:counter32
     +--ro num-pcreq-rcvd?              yang:counter32
     .
     .
     +--ro svec {p:svec}?
     |  .
     |  .
     +--ro stateful {p:stateful}?
     |  .
     |  .
     |  +--ro initiation {p:pce-initiated}?
     |     .
     |     .
     +--ro path-key {p:path-key}?
        +--ro num-unknown-path-key?      yang:counter32
        .
        .
```

Grouping Changes in other models..

```
+--rw (auth-type-selection)?
|  +--:(auth-key-chain)
|  |  +--rw key-chain?
|  |          key-chain:key-chain-ref
|  +--:(auth-key)
|  |  +--rw crypto-algorithm              identityref
|  |  +--rw key-string
|  |     +--rw (key-string-style)?
|  |        +--:(keystring)
|  |        |  +--rw keystring?             string
|  |        +--:(hexadecimal)
|  |                 {key-chain:hex-key-string}?
|  |           +--rw hexadecimal-string?   yang:hex-string
|  +--:(auth-tls) {tls}?
|     +--rw tls
```

```
+--ro path-keys {path-key}?
|  +--ro path-keys* [path-key]
|     +--ro path-key          uint16
|     +--ro cps
|     |  +--ro explicit-route-objects* [index]
|     |     +--ro explicit-route-usage?   identityref
|     |     +--ro index                   uint32
|     |     +--ro (type)?
|     |        +--:(ip-address)
|     |        |  +--ro ip-address-hop
|     |        |     +--ro address?    inet:ip-address
|     |        |     +--ro hop-type?   te-hop-type
|     |        +--:(as-number)
|     |        |  +--ro as-number-hop
|     |        |     +--ro as-number?   binary
|     |        |     +--ro hop-type?    te-hop-type
|     |        +--:(unnumbered-link)
|     |        |  +--ro unnumbered-hop
|     |        |     +--ro router-id?      inet:ip-address
|     |        |     +--ro interface-id?   uint32
|     |        |     +--ro hop-type?       te-hop-type
|     |        +--:(label)
|     |        |  +--ro label-hop
|     |        |     +--ro value?
|     |        |              rt-types:generalized-label
|     |        +--:(sid)
|     |           +--ro sid-hop
|     |              +--ro sid?
|     |                       rt-types:generalized-label
```

Questions..

- Model
  - The pcep model has ‘config’ & ‘state’ constrainers separated from the inception.
  - We *prefer* to keep it that way!
    - Are there any motivations to change that?
    - What is the impact when revised-data-store is ready?
- Notifications
  - Draft has some notifications related to PCEP session up/down or overload.
  - We prefer to keep them!
    - Are there motivations to remove even the most basic ‘notifications’ from the model?

To Do

- Adding TLS support for PCEPS
  - Discussion is on-going with netconf authors of –
    - ietf-tls-client
    - ietf-tls-server
    - Which were updated recently!
  - We would be using the groupings defined in these model.

  - Plan to put an update out SOON.

Thank You!