

A Yang Data Model for PCEP

draft-ietf-pce-pcep-yang-01

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

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Introduction

Yang Data Model

Management of
PCEP speakers

Configurations

State

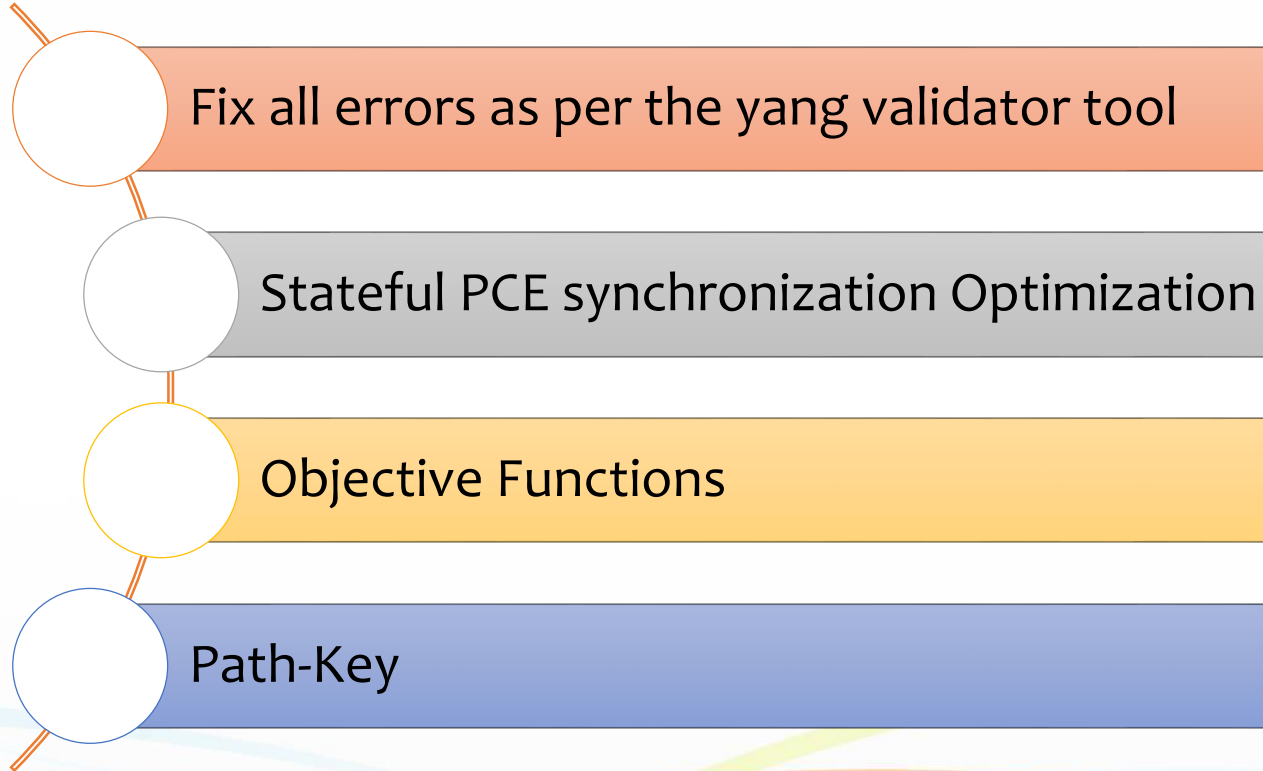
PCEP as per RFC
5440

Aligned to PCEP MIB

Extensions

Stateful PCE, SR, SVEC,
OF, GCO, P2MP...

Recent Changes



Sync Optimization

- Capability
 - Include DB Version Sync
 - Incremental (Delta) Sync
 - Triggered Initial Sync
 - Triggered Re-sync

```
module: ietf-pcep
  +--rw pcep!
  |   +--rw entity
  |   |   +--...
  |   |   +--rw speaker-entity-id?          string {stateful-sync-opt}?
  |   |   +--...
  |   |   +--...
  |   |   +--rw stateful {stateful}?
  |   |   |   +--rw enabled?                boolean
  |   |   |   +--rw active?                boolean
  |   |   |   +--rw pce-initiated?        boolean {pce-initiated}?
  |   |   |   +--rw include-db-ver?      boolean {stateful-sync-opt}?
  |   |   |   +--rw trigger-resync?      boolean {stateful-sync-opt}?
  |   |   |   +--rw trigger-initial-sync? boolean {stateful-sync-opt}?
  |   |   |   +--rw incremental-sync?    boolean {stateful-sync-opt}?
  |   |   +--rw sr {sr}?
  |   |   |   +--rw enabled?              boolean
  |   |   +--...
  |   +--rw peers
  |   |   +--rw peer* [addr]
  |   |   |   +--...
  |   |   |   +--rw capability
  |   |   |   |   +--...
  |   |   |   |   +--rw stateful {stateful}?
  |   |   |   |   |   +--...
  |   |   |   |   |   +--rw include-db-ver?    boolean {stateful-sync-opt}?
  |   |   |   |   |   +--rw trigger-resync?    boolean {stateful-sync-opt}?
  |   |   |   |   |   +--rw trigger-initial-sync? boolean {stateful-sync-opt}?
  |   |   |   |   |   +--rw incremental-sync?  boolean {stateful-sync-opt}?
  |   |   |   |   +--...
  |   |   |   +--...
  |   |   +--...
```

Sync Optimization

- Local Speaker Entity
- Peer Speaker Entity
- Local DB Version
- Received DB Version per peer

```
+--ro pcep-state
+--ro entity
+--...
+--ro speaker-entity-id?      string {stateful-sync-opt}?
+--...
+--ro capability
| +--...
| | +--ro stateful {stateful}?
| | | +--...
| | | +--ro include-db-ver?      boolean {stateful-sync-opt}?
| | | +--ro trigger-resync?      boolean {stateful-sync-opt}?
| | | +--ro trigger-initial-sync? boolean {stateful-sync-opt}?
| | | +--ro incremental-sync?    boolean {stateful-sync-opt}?
| | | +--...
+--ro lsp-db {stateful}?
| +--ro db-ver?
| +--...
+--ro peers
+--ro peer* [addr]
+--...
+--ro capability
| +--...
| | +--ro stateful {stateful}?
| | | +--...
| | | +--ro include-db-ver?      boolean {stateful-sync-opt}?
| | | +--ro trigger-resync?      boolean {stateful-sync-opt}?
| | | +--ro trigger-initial-sync? boolean {stateful-sync-opt}?
| | | +--ro incremental-sync?    boolean {stateful-sync-opt}?
| | | +--...
+--ro sessions
+--ro session* [initiator]
+--...
+--ro recv-db-ver?            uint64 {stateful,stateful-sync-opt}?
+--...
+--ro speaker-entity-id?     string {stateful-sync-opt}?
```

Objective Function

- Support for various objective function codes
- PCEP entity is configured with list of OF it can support.
- List of OF supported by the peer as learned in the Open Message
- As per the manageability consideration of RFC 5541

```
module: ietf-pcep
  +--rw pcep!
  |   +--rw entity
  |   |   +--...
  |   |   +--rw of-list {objective-function}?
  |   |   |   +--rw objective-function* [of]
  |   |   |   |   +--rw of      objective-function
  |   |   |   +--...
  |   +--ro pcep-state
  |   +--ro entity
  |   +--...
  |   +--ro of-list {objective-function}?
  |   |   +--ro objective-function* [of]
  |   |   |   +--ro of      objective-function
  |   +--ro peers
  |   |   +--ro peer* [addr]
  |   |   +--...
  |   |   +--ro sessions
  |   |   |   +--ro session* [initiator]
  |   |   |   +--...
  |   +--ro of-list {objective-function}?
  |   |   +--ro objective-function* [of]
  |   |   |   +--ro of      objective-function
  |   +--...
```


Next Step

- Some Open Issues
 - TLS configurations in authentication
 - Need for more notifications / rpc (?)
- Is it time to stop adding new PCEP features and freeze?
 - Work on making sure the completeness of current feature-set now?
- More reviews
 - Direct contribution on github are welcome!



Thank You!