Schema version selection
draft-wilton-netmod-yang-ver-selection-00

NETMOD WG

July 22nd, 2019

Reshad Rahman (presenting), Rob Wilton

YANG version selection - Goals

- To address requirements 3.1 and 3.2 from draft-ietf-netmod-yang-versioning-reqs-01:

  ```
  3. Requirements related to supporting existing clients in a
  backwards-compatible way:
  ```

  ```
  3.1 The solution MUST provide a mechanism to allow servers to
  support existing clients in a backwards-compatible way.
  ```

  ```
  3.2 The solution MUST provide a mechanism to support clients
  that expect an older version of a given module when the
  current version has had non-backwards-compatible changes.
  ```

YANG Version Selection - Summary

- Allows servers to do NBC changes without forcing clients to immediately migrate to the new module versions

- Makes use of YANG packages defined in draft-rwilton-netmod-yang-packages

- Provides a mechanism for servers to advertise support for multiple versions of YANG packages

- Allows clients to choose, among the ones advertised by the server, which YANG package version they use

YANG Version Selection − Summary (2)

- Servers are NOT required to concurrently support clients using different schema versions

- Servers are NOT required to support every published version of a YANG package

- Servers are NOT required to support all parts of all versioned schema. E.g. for some NBC changes, it may not be possible for the server to support both the old and new versions

YANG Version Selection − Overview

- A versioned schema is a YANG schema with an associated YANG revision label (such as a semantic version number). For example it could be a YANG package (see draft-rwilton-netmod-yang-packages)

- A schema-set is a set of related versioned YANG schema, one for each supported datastore

- Servers support configuration for the default schema-set version to use for default NETCONF/RESTCONF connections

- Servers support configuration for secondary NETCONF/RESTCONF instances (using different port numbers) which use a different schema-set version

- Clients choose which schema-set they use by using the corresponding NETCONF/RESTCONF port number

YANG Version Selection − Data Tree

```
module: ietf-schema-version-selection
    +--rw schema-selection
    |   +--rw schema-sets* [name]
    |       +--rw name string
    |       +--rw netconf! {secondary-schema-set}?
    |       |   +--rw port? inet:port-number
    |       +--rw restconf! {secondary-schema-set}?
    |       |   +--rw port? inet:port-number
    |       |   +--rw root-path? inet:uri
    |       +--ro datastores* [datastore]
    |           +--ro datastore ds:datastore-ref
    |           +--ro package
    |               +--ro name?
    |               | -> /yanglib:yang-library/pkg:package/name
    |               +--ro version? Leafref
    +--rw default-schema-set?
            -> /schema-selection/schema-sets/name
            {default-schema-set}?
```