YANG Packages

draft-ietf-netmod-yang-packages-02

NETMOD WG
Nov 2021

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YANG Package Current Status –

• Changes since -01
  • Remove package checksums definition based on WG discussion

• Issues status
  • Open issues, 20 total open issues now
    • [https://github.com/netmod-wg/yang-ver-dt/issues?q=is%3Aopen+is%3Aissue+label%3Apackages](https://github.com/netmod-wg/yang-ver-dt/issues?q=is%3Aopen+is%3Aissue+label%3Apackages)

• Issues under discussion
  • Should add revision label scheme to YANG packages #65
  • YANG packages support for schema mount #57
  • Packages and Library are separately defined and somewhat different #67 #69
Should add revision label scheme to YANG packages #65

• [https://github.com/netmod-wg/yang-ver-dt/issues/65](https://github.com/netmod-wg/yang-ver-dt/issues/65)

• YANG revision label scheme is missing in YANG package definition, should allow any YANG revision label scheme.

Next step: will refine the text
Packages can contain modules with mount points. Should there be some additional information in the package definition about mount points? E.g. Package "IETF": mounts L2VPN and L3VPN

**Next step: will update to include the mount point information, and define constraints for mounted schema:**

- **Rule R1:** Package X constraints for the instance of the mount point (e.g. either L2VPN or L3VPN)
- **Rule R2:** Schema-mounts listed in Package X is an override of mounts in included packages
- **Rule R3:** List of allowable packages must include all allowable packages from included packages
Too many module lists (library, hello, packages, etc)

https://github.com/netmod-wg/yang-ver-dt/issues/69

There are already four mechanisms standardized by IETF:
1. The hello message (mandatory in YANG 1.0, RFC 6020)
2. ietf-netconf-monitoring (required for downloading YANG schemas, RFC 6022)
3. ietf-yang-library (mandatory in YANG 1.1, RFC 7950)
4. ietf-yang-library (as modified by NMDA, RFC 8342)

YANG package would add a fifth mechanism to list the set of modules a server implements. Is there some possible way to remove this duplication?

Proposal: will be further discussed in weekly calls, and bring back to WG
Next Step

• Resolve the open issues
Backup
YANG Package Model Structure

Common package definition for both the YANG instance data file and the device

Package list on Server: all versions of all packages supported

YANG Library augmentation:
Clients generally uses the packages to associate with the datastore schema instead of the module set
YANG structure with schema mount

```Yang
grouping yang-pkg-instance
  +-- name                  pkg-name
  +-- version               pkg-version
  +-- timestamp?            yang:date-and-time
  +-- ...                    
  +-- mandatory-feature*    scoped-feature
  +-- included-package*     [name version]
    |  +-- name                pkg-name
    |  +-- version             pkg-version
    |  +-- ...                
  +-- module*              [name]
    |  +-- ...                
  +-- import-only-module*  [name revision]
    |  +-- name?               yang:yang-identifier
    |  +-- revision?           rev:revision-date-or-label
    |  +-- ...                
  +-- schema-mounts        <---- This is new.
    +-- mount-point*         [module label]
      +-- module?           yang:yang-identifier
      +-- label?            yang:yang-identifier
      +-- config?           boolean
      +-- shared-schema?     boolean
      +-- package*          [name version]
        +-- name            pkg-name
        +-- version         pkg-version
```

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