Versioning YANG schema

draft-rwilton-netmod-yang-packages-01

NETMOD WG

July 22, 2019

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YANG Package - Overview

Defines a versioned YANG schema as the set of YANG module versions/revisions

• Uses the same module YANG semver scheme (*)
• Hierarchical - packages can import other packages
• Available offline in a YANG instance data file
• Available on the device (e.g. in YANG library)
• The draft is slightly out of date (doesn’t accommodate the changes for draft-verdt-netmod-yang-module-versioning-00)
YANG Package – Why?

Aim to solve several problems:

• Need to version sets of modules instead of just individual modules
• Encourage more consistency in implementations
• Some schema contain 100+ modules, managing these as a flat list is unwieldy
• To avoid downloading/check the full module list from a device. Making the schema available offline, and then check that the device is using (or just compatible with) the expected schema
Example Package - **ex-ietf-network-device**

**ex-ietf-network-device**

version 1.1.2

Meta-data ...

Implements:

- iana-crypt-hash 2014-08-06
- ietf-system 2014-08-06
- ietf-interfaces 1.1.0

Import-only:

- iana-yang-types 2013-07-15
- iana-inet-types 2013-07-15

Definition includes:

- **Metadata:**
  - URLs to find package/module definitions
  - Mandatory features
- **Imported packages**
- **Implemented module version/revisions**
- **Import-only module versions/revisions**
- **Import conflict resolution**
Example Package 2 - example-ietf-basic-routing

- Ex-ietf-basic-routing imports ex-ietf-network-device and defines more module versions.
- Any version conflict/change must be explicitly resolved.
- Package version indicates nature of changes in the modules or package import.
YANG Package – key issue?

- Current packages draft uses YANG Semver as the versioning scheme.
- But the latest module level versioning is not tied to YANG Semver, that is only one possible version identifier.
- Probably better for YANG packages to support any partially ordered set of version identifiers?
  - E.g. YANG Semver could be used, or some other schemes.
- Use YANG identifier (or enum) to specify the scheme being used.