

NETMOD YANG Module Versioning Update

NETMOD WG

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Presenting on behalf of the weekly versioning call attendees:
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IETF 118

Since IETF 117

Some key YANG Versioning decisions made by the WG:

- 1) Non backwards compatible (NBC) changes will be allowed in YANG
 - As a “SHOULD NOT”
- 2) We won't create a new version of YANG (e.g. 1.2) to allow NBC changes

Next step: Converge on the updated content of the first/fundamental YANG Versioning draft: Module Versioning

- Current version is here, but this will be updated significantly after we converge: [draft-ietf-netmod-yang-module-versioning-10](#)
- hedgedoc poll: [HedgeDoc - Collaborative markdown notes \(ietf.org\)](#)

This work needs to complete asap

Items That Need WG Discussion – T7

From email “Updated Content of Module Versioning”:

T7. filename changes (Sec 3.4.1)

The authors/contributors are leaning towards suggesting that this moved change be moved to YANG Next consideration. However, there isn't complete consensus, with concerns that the vendors will each define their own incompatible file naming schemes for YANG modules that use version numbers. If we retain this work then this would likely move to the YANG Semver draft.

Discussion points raised on the list (up to Oct 31):

It needs to be clear that the existing text in section 5.2 remains untouched (my-module@2023-10-12)

Getting tools to handle the file naming patterns defined in RFC 7950 took a long time. It would be disruptive to introduce yet another file-naming pattern. It would also be another NBC change forced on YANG 1.1 tools.

Hackathon project planned at IETF 118 to modify pyang, yanger and libyang (yanglint) for new filename and other versioning extensions.

Items That Need WG Discussion – T8

From email “Updated Content of Module Versioning”:

T8. recommended-min for imports (Sec 4)

The WG seems to be somewhat split on how urgent this is, and there isn't consensus amongst authors/contributors for retaining this work or deferring it. One option is to keep it, but renamed as recommended-min-date.

Discussion points raised on the list (up to Oct 31):

Min revision concept is useful.

Can't do this concept (as a “MUST”, i.e. affects conformance, mandatory) without a bump to YANG 1.2.

- this is why the authors/contributors moved from min-rev to recommended-min (soften, tools don't need to respect it, documentation)

Items That Need WG Discussion – T9

From email “Updated Content of Module Versioning”:

T9. Versioning of YANG instance data (Sec 6)

There wasn't any consensus among the authors/contributors as to whether this should be retained or deferred to a new version of the YANG instance data document.

Items That Need WG Discussion – T10

From email “Updated Content of Module Versioning”:

T10. Do **all whitespace changes (including whitespace between statements) require a new revision to be published? Sec 3.1, last paragraph.**

The authors/contributors are somewhat split on whether to retain this. The advantage of keeping this is that it makes it very easy to check (i.e., via a simple text diff tool) whether two modules pertaining to be the same version are in fact the same. It should also mean that it is easy to generate a hash-based fingerprint of a module revision. The alternative gives more flexibility to users to reformat modules (e.g., for different line-lengths), but complicates the check to ensure that a YANG module revision hasn't been changed or makes it slightly more expensive to generate a hash since the module formatting would need to be normalized first.

Baseline Content Updates

(not updated in draft 10)

From email "Updated Content of Module Versioning":

T1. Retained: The "ver:non-backwards-compatible" annotation (Sec 3.2)

- Retained. This top level (module level) extension (which can be ignored by tools that don't understand it) is critical to include so that module readers and tools can know when NBC changes have occurred.

T2. Retained: Updated rules of what is NBC: (Sect 3.1.1, 3.1.2)

- Retained. status obsolete is NBC, extensions define their behavior, import by revision-date is BC, insignificant whitespace is BC

T3. Removed: revision-label-scheme extension (Sec 3.4.2)

- Removed. Based on WG LC discussions we will go back to a single versioning scheme for YANG modules, and hence the revision-label-scheme extension will be removed from this draft.

T4. Moved to YANG Semver: revision-label extension (Sec 3.4)

- Removed. Related to T3 above, given that a single versioning scheme is sufficient, the revision-label extension will be moved to the YANG Semver draft, and removed from Module Versioning.

Baseline Content Updates (cont.)

(not updated in draft 10)

From email "Updated Content of Module Versioning":

T5. Removed: Resolving ambiguous imports in YANG library (Sec 5.1)

- Removed. This will be removed from Module Versioning (could be considered in YANG Next, although that is many years away). Note, RFC 7950, section 5.6.5, paragraph 5 does consistently define how to build the schema. The change in the draft was to always prioritise an implemented module over the most recent implemented *or* import-only revision. But this will be removed.

T6. Retained: Advertisement for how deprecated & obsolete nodes are handled (Sec 5.2.2)

- Retained. This information is important for clients to be able to accurately construct the schema and hence it is retained in Module Versioning.