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YANG module file name convention
draft-ietf-netmod-yang-module-filename-03

Abstract

This document presents YANG module file name convention. The convention extends the current YANG module file name using revision-date, with the YANG semantic version extension. The YANG semantic version extension allows for an informative version to be associated with a particular YANG module revision.

This documents updates RFCs 6020, 7950, and draft-ietf-netmod-rfc8407bis.

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1. Introduction

This document defines the YANG module file convention. It extends the current convention defined in [RFC6020], [RFC7950], and [I-D.ietf-netmod-rfc8407bis], which uses revision-date, with the YANG semantic version extension defined in [I-D.ietf-netmod-yang-semver].

1.1. Terminology

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

1.2. Motivation

The motivation for using YANG semantic version instead of revision date is that it conveys additional information to the user. A revision date only tells the user that it has been updated, while, for instance, a YANG Semver version can tell the user about the module's compatibility level at a glance. Having this information available as early as possible, i.e. in the module file name, makes it possible to quickly identify the module revision; compared to searching in the file contents and checking the revisions. Having the YANG semantic version visible in the file name will make it easier to handle large sets of YANG modules.

2. Module file names

This section updates Section 5.2 of [RFC7950], Section 5.2 of [RFC6020], and Section 3.2 of [I-D.ietf-netmod-rfc8407bis].

If a revision has an associated YANG semantic version (ysv:version) then it MAY use the YANG semantic version instead of the revision date in the file name of a YANG file, where it takes the form:

```
module-or-submodule-name [['@' revision-date][ '#' ysv:version]]
    ( '.yang' / '.yin' )
```

E.g., acme-router-module@2024-05-15.yang or
acme-router-module#2.0.3.yang.

In short, the YANG semantic version file name scheme is recommended in order to simplify for module consumers, i.e. to convey compatibility status at a glance without needing to read the module.

YANG module (or submodule) files MAY be identified using either revision-date or YANG semantic version (ysv:version). Typically, only one file name SHOULD exist for the same module (or submodule) revision. Two file names, one with the revision date and another with the YANG semantic version, MAY exist for the same module (or submodule) revision, e.g., when migrating from one scheme to the other.

2.1. Coexistence with YANG Semver

As can be seen above, all valid identifiers for YANG semantic version are valid in the filename as well. Section 4.3 of [I-D.ietf-netmod-yang-semver]

The following example is a valid YANG module file name

```
example-module#2.3.1_non_compatible+build2237refM443ss.yang
```

One consequence of this is that there might exist two child modules of version 2.0.0 with the same X.Y.Z digits (2.0.1) but different version labels:

```
2.0.1-draft-superman-super-stuff-03
```

```
2.0.1-draft-batman-cool-addition-07    (a competing draft)
```

2.2. Known incompatibilities

There are currently no known publicly available tools that support the YANG semantic version file name schema. There are known proprietary tooling that already uses the file name schema presented in this document.

At the IETF 119 Hackathon, there was a project that investigated the feasibility to modify popular YANG tooling to support the proposed schema. There was a successful attempt to modify pyang to support the file name schema and also "recommended-min" previously included in [I-D.ietf-netmod-yang-module-versioning]. Furthermore, there were efforts in researching yanger and libyang to support the schema, but the hackathon ended before these projects could be concluded.

3. IANA Considerations

The "YANG Module Names" Registry will need to support YANG modules with both the existing file name convention and the file name convention defined in this document.

The registry SHOULD avoid publishing multiple instances of the same YANG module with different file names. If this situation is motivated, for instance due to maintaining backwards compatibility, it can however be possible that the registry needs to publish the same YANG module with multiple file names. For instance, if a YANG module starts to use YANG Semver, it might simplify for consumers to publish this with filename and revision-date and also filename and ysv:version.

4. Security Considerations

There are no security considerations for this draft.

5. References

5.1. Normative References

[I-D.ietf-netmod-rfc8407bis]

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5.2. Informative References

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