

Semantic Versioning for YANG Artifacts

[draft-verdt-netmod-yang-semver](#)

NETMOD WG

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What's The Same Since -00

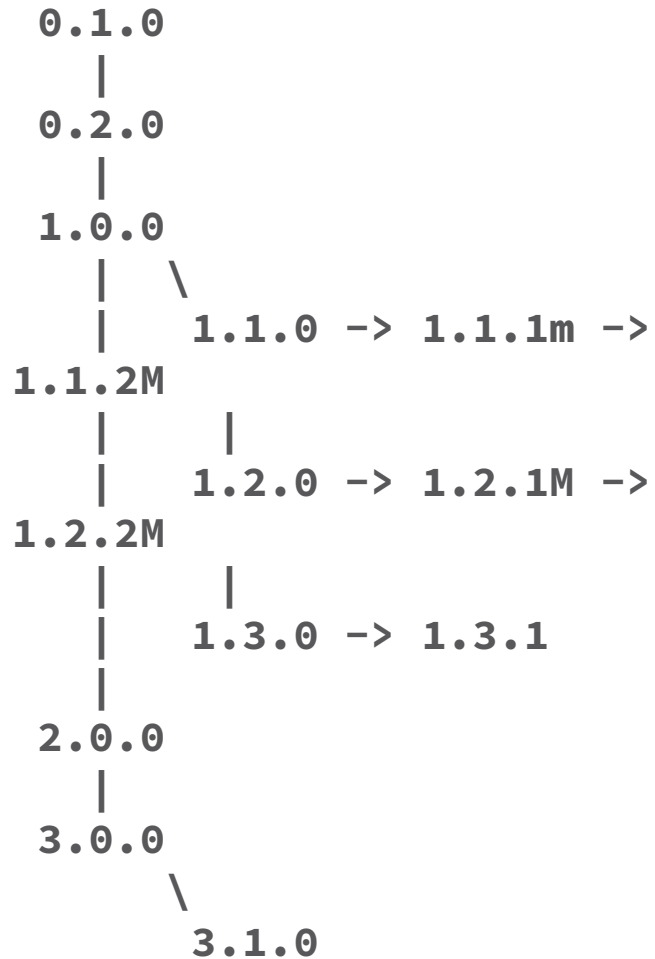
- Modified semver syntax and rules
- Notions of NBC changes, BC changes, and editorial changes
- Modules can have a semantic version associated with them

Modified Semver (Recap)

- › x.y.zm|M
 - x major version, stepped for NBC changes
 - y minor version, stepped for BC changes
 - z patch version stepped for editorial changes
 - m used for BC changes, needed when next “y” has already been used, and the old version MUST be updated
 - M used for NBC changes, needed when next “x” has already been used, and the old version MUST be updated
- › The same x.y.z triplet MUST NOT be reused (independent of m|M)
- › m|M optional
- › Beta versions of the form 0.y.z do not follow these rules

YANG Semver Example (Recap)

YANG semantic version numbers for an example module:



- > 0.1.0 - first beta module version
- > 0.2.0 - second beta module version (with **NBC** changes)
- > 1.0.0 - first release (may have **NBC** changes from 0.2.0)
- > 1.1.0 - added new functionality, leaf "foo" (**BC**)
- > 1.2.0 - added new functionality, leaf "baz" (**BC**)
- > 1.3.0 - improve existing functionality, added leaf "foo-64" (**BC**)
- > 1.3.1 - improve description wording for "foo-64" (**Editorial**)
- > 1.1.1m - backport "foo-64" leaf to 1.1.x (**BC**)
- > 2.0.0 - change existing model for performance reasons, e.g. re-key list (**NBC**)
- > 1.1.2M - **NBC** bug fix, not required in 2.0.0 due to model changes (**NBC**)
- > 3.0.0 - **NBC** bugfix, rename "baz" to "bar"; also add new **BC** leaf "wibble"; (**NBC**)
- > 1.2.1M - backport **NBC** fix, changing "baz" to "bar"
- > 1.2.2M - backport "wibble". This is a **BC** change but "M" modifier is sticky.
- > 3.1.0 - introduce new leaf "wobble" (**BC**)

What's New Since -00

- The term *YANG Artifact* has been introduced to extend semver to packages as well as modules
- The semver construct is documented to be a revision-label value
- No longer updates 7950
- Full support has been added for semver 2.0.0
- The semver typedef is formally defined, and rules re-stated that a revision-label that follows this pattern should be treated with modified semver rules

Semver As Revision-label

OLD:

```
revision 2018-02-28 {  
  description "Added leaf 'wobble'";  
  semver:module-version "3.1.0";  
  reference "product-description ACME-Router v12";  
}
```

NEW:

```
import ietf-yang-revisions {  
  prefix rev;  
}  
...  
revision 2018-02-28 {  
  description "Added leaf 'wobble'";  
  rev:revision-label "3.1.0";  
  reference "product-description ACME-Router v12";  
}
```

Support For Full Semver 2.0.0

- Semver 2.0.0 defines optional pre-release and build metadata to follow a version string
- E.g., Pre-release: 1.0.0-alpha, 1.0.0M-alpha.1, 1.0.0-0.3.7, 1.0.0-x.7.z.92
- E.g., Build: 1.0.0m-alpha+001, 1.0.0+20130313144700, 1.0.0-beta+exp.sha.5114f85
- This MD is ignored for purposes of YANG semver (this just allows us to be completely compatible with semver 2.0.0)

YANG Semver Typedef

```
typedef version {  
    type string {  
        pattern '\d+[\d+[\d+[mM]?(-[\w\d.]+)?([+][\w\d\.]++)?';  
    }  
    description  
        "Represents a YANG semantic version number. Note:  
        additional rules apply to the dot-separated numeric identifiers  
        which are spelled out in the reference for this typedef.";  
    reference  
        "RFC XXXX: YANG Semantic Versioning.";  
}
```