

# NETMOD Versioning Solution Update

NETMOD WG

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Presenting on behalf of the weekly versioning call attendees:  
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IETF 112

# Agenda

**This presentation:**

**Solution Overview – Balazs Lengyel**

**Following presentations on individual drafts:**

**YANG Packages – Bo Wu**

**See backup slides for solution overview & summary of Module Versioning and YANG Semver drafts.**

# General update on weekly Versioning calls

- Authors + interested parties continue to meet on a weekly call to progress this work
  - Meetings are open to all
  - Regular participation from people across 5+ different companies (mostly equip. vendors, participation from more operators/users would be beneficial)
  - Key issues are brought back to WG mailing list
  - Weekly meeting is currently on Tues @2pm UK time / 9am Eastern.  
Thanks to the authors and contributors for their regular attendance

# General update on weekly Versioning calls

Focus of weekly meetings since IETF111:

- 1) Driving Module Versioning and YANG Semver drafts to completion
  - last of the author top-down reviews are done
  - updates have been rolled into the latest drafts
  - authors believe drafts are ready for WG last call
  
- 2) Closing issues against the Packages draft
  - owners assigned to issues to produce updated text
  - many still to work through

# Module Versioning Updates Since IETF111

[draft-ietf-netmod-yang-module-versioning-05](#)

Following changes were made since rev -03:

1. Clarifications on removal revisions from revision history, section 3.3. Issue [#103](#)
2. Multiple editorial changes based on review by various contributors, e.g :
  - a) Updates RFC6020
  - b) Added couple of SHOULD statements in 7.1 (Guidelines)

# YANG Semver Updates Since IETF111

## [draft-ietf-netmod-yang-semver-05](#)

- Authors conducted top-down review
- Added text to define impact to submodules
- Changed prefix to “ysver” to retain some uniqueness while keeping it short
- Multiple editorial changes
  - Clarified the definition of “YANG Semver”
  - Chase updates to YANG module versioning
- More changes discovered after initial review; version -05 addresses all open issues

# YANG Semver Updates Since IETF111

## New Text on Submodules

*“YANG Semver MAY be used to version submodules. Submodule version are separate of any version on the including module, but if a submodule has changed, then the version of the including module MUST also be updated.”*

*The rules for determining the version change of a submodule are the same as those defined in [Section 3.1](#) and [Section 3.2](#) as applied to YANG modules, except they only apply to the part of the module schema defined within the submodule's file.”*

- Essentially, submodules may be versioned based on changes to the schema within the submodule.
- A version bump of a submodule necessitates a version bump of the including module

# Next Steps

- Issues tracked in github, discussed on WG mail list  
<https://github.com/netmod-wg/yang-ver-dt>
- Phase work on the documents:
  - WG LC comments & updates to Module Versioning and YANG Semver
  - Focus on Packages draft:
    - many open issues
    - various people contributing text updates
  - Version Selection and Schema Comparison to follow



# BACKUP SLIDES

# Recap - YANG Versioning Solution Overview

Complete solution consists of five drafts:

1. Updated YANG Module Revision Handling:  
Notify nbc changes between module revisions, allows branched revision history, revision-labels
2. Module semantic version number scheme:  
YANG semver for module revision-labels and package versioning
3. Versioned YANG packages:  
Versioning at the schema level rather than individual modules
4. Protocol operations for package version selection:  
Devices can support multiple schema versions, clients can select for session
5. YANG schema comparison tooling:  
Tooling to algorithmically compare module or schema revisions

Latest working drafts can all be found here: <https://github.com/netmod-wg/yang-ver-dt>

# Module Revision Handling + YANG Semver Drafts

Summary of main requirements & recommendations

[draft-ietf-netmod-yang-module-versioning - Updated YANG Module Revision Handling](#)

[draft-ietf-netmod-yang-semver - YANG Semantic Versioning](#)

## A) Mark a revision as non-backwards-compatible

```
module example-module {  
  
    namespace "urn:example:module";  
    prefix "prefix-name";  
  
    import ietf-yang-revisions { prefix "rev"; }  
    import ietf-yang-semver { prefix "ysver"; }  
  
    rev:revision-label-scheme "ysver:yang-semver";  
  
    revision 2019-06-01 {  
        rev:revision-label 3.1.0;  
        description "Add new functionality.";  
    }  
  
    revision 2019-03-01 {  
        rev:revision-label 3.0.0;  
        rev:non-backwards-compatible;  
        description  
            "Add new functionality. Remove some deprecated nodes.";  
    }  
  
    revision 2019-02-01 {  
        rev:revision-label 2.0.0;  
        rev:non-backwards-compatible;  
        description "Apply bugfix to pattern statement";  
    }  
}
```

# Module Revision Handling + YANG Semver Drafts

## Summary of main requirements & recommendations

### B) Import by revision-or-derived

Specify a *\*minimum\** revision for import, but any descendant is also conformant.

Use the latest descendant available.

```
import example-module {  
    rev:revision-or-derived 3.0.0  
}
```

# Module Revision Handling + YANG Semver Drafts

## Summary of main requirements & recommendations

### C) YANG Semver revision-label

X.Y.Z = Major.Minor.Editorial

Major -> change for NBC changes

Minor -> additional leafs, etc

Editorial -> fix a description

Example YANG module with branched revision history.

Module revision date	Revision label
2019-01-01	<- 1.0.0
2019-02-01	<- 2.0.0
2019-03-01	<- 3.0.0
2019-04-01	<- 2.1.0
2019-05-01	<- 2.2.0
2019-06-01	<- 3.1.0

```
module example-module {  
  
    namespace "urn:example:module";  
    prefix "prefix-name";  
  
    import ietf-yang-revisions { prefix "rev"; }  
    import ietf-yang-semver { prefix "ysver"; }  
  
    rev:revision-label-scheme "ysver:yang-semver";  
  
    revision 2019-06-01 {  
        rev:revision-label 3.1.0;  
        description "Add new functionality.";  
    }  
  
    revision 2019-03-01 {  
        rev:revision-label 3.0.0;  
        rev:non-backwards-compatible;  
        description  
            "Add new functionality. Remove some deprecated nodes.";  
    }  
}
```

Optional compatibility extension:

rev:revision-label 3.0.2 non\_compatible

# Module Revision Handling + YANG Semver Drafts

Summary of main requirements & recommendations

## D) Filename recommendation

```
my-module#3.2.0.yang
```