

# NETMOD YANG Versioning Solution Update

NETMOD WG

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**Presenting on behalf of the weekly versioning call attendees:  
Tom Hill**

**IETF 116**

# Agenda

**This presentation:**

**Solution Overview – Tom Hill**

**Following presentation on individual drafts:**

**Schema Comparison – Joe Clarke**

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

# 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. YANG schema comparison tooling:  
Tooling to algorithmically compare module or schema revisions
4. Versioned YANG packages:  
Versioning at the schema level rather than individual modules
5. Protocol operations for package version selection:  
Devices can support multiple schema versions, clients can select for session

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

# Recap - YANG Versioning Solution Overview

Links for published drafts:

<https://datatracker.ietf.org/doc/html/draft-ietf-netmod-yang-module-versioning>

<https://datatracker.ietf.org/doc/html/draft-ietf-netmod-yang-semver>

<https://datatracker.ietf.org/doc/draft-ietf-netmod-yang-schema-comparison>

<https://datatracker.ietf.org/doc/html/draft-ietf-netmod-yang-packages>

<https://datatracker.ietf.org/doc/draft-ietf-netmod-yang-ver-selection>

# 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
- Issues tracked in github (<https://github.com/netmod-wg/yang-ver-dt>)

# General update on weekly Versioning calls

2<sup>nd</sup> WG LC is imminent for Module Versioning and YANG Semver drafts

- To do:
  - Re-issue for contributors vs acknowledgements
  - finish up IPR calls

Focus of weekly meetings since IETF115 has been primarily on the Schema Comparison draft:

- Key issues identified and being discussed
- Many fundamental issues still open (i.e. what we want to achieve)

Packages draft will be next, but that is still some time off given the open work remaining on Schema Comparison.

# BACKUP SLIDES

# 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) Recommending a minimum revision for module imports

Specify a *\*minimum\** revision for import, or any descendant of the minimum

Documentation of a recommendation. Not a strict conformance rule.

```
import example-module {  
    rev:recommended-min 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/suffix:

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
```