

# YANG Revision Guidelines



YANGsters discussion

# Introduction



- Discussion of process related to revisions to published IEEE YANG files
- Fundamentals
- Two Use Cases
  - Initial YANG modules
  - Update to YANG modules

# Fundamentals



- Current Practice
  - The YANG files become an integral part of an IEEE Published Standard (ex. IEEE Std 802.1Qcp-2018)
  - The text of all YANG modules is included in the main body of the standard and also attached as text files to the pdf that can be used by YANG tooling
  - When an IEEE Standard that includes YANG is close to completion, before it is sent for the final ballot, the YANG needs to be updated to include the latest date/revision information
    - This ensures that what is published is unchanged (or only needs minor editorial fixes to the descriptive text)
- Currently we do not put the revision date in the name of the YANG module
  - This means that only the latest revision of a module can be stored in any repository at a time
- Following are examples based on various use-cases

# Current Practice



- RFC 7950 is the YANG 1.1 RFC
- The 'revision' statement is very rudimentary
- The 'revision' statement provides a date, description, and reference
- The date is formatted at "YYYY-MM-DD"
- There can be more than one 'revision' statement, and should be in reverse chronological order
- The Semantic Versioning work and the new guidelines for version naming and numbering are current work in progress in the IETF.
  - <https://www.ieee802.org/1/files/public/docs2020/yangsters-smansfield-yang-versioning-0820-v01.pdf>



# To align IEEE with IETF YANG module naming conventions

- For a repository to support multiple revisions, need a way to differentiate between the files.
  - IETF places the revision date in the name of the file
  - For repositories that support symbolic links, provide a symbolic link to the latest revision of a module
    - Example: `ietf-connection-oriented-oam.yang` -> `ietf-connection-oriented-oam@2019-04-16.yang`
- Suggestion is for the IEEE 802 to put the revision date in the module file name
  - Attach that module to the draft standard that goes to the IEEE staff editor
  - If there are any changes to the text of the YANG module, the revision date and file name need to change

# Initial Publication



- For a work item that is creating the first version of a YANG module
- Follows the normal IEEE Standard Development Process
  - Ballots, IEEE Staff editing etc...
  - Draft YANG can be stored on the YANG Catalog's github repository in the "draft" tree
- When the project reaches the point of IEEE Staff editing, then need to update the YANG revision statement

- Example from IEEE `ieee802-dot1q-bridge.yang`
- Discussion topic

```
revision 2018-03-07 {  
  description  
    "Published as part of IEEE Std 802.1Q-2018.  
    Initial version.";  
  reference  
    "IEEE Std 802.1Q-2018, Bridges and Bridged Networks.";
```

- The date in the YANG module doesn't have to match the date of publication
  - To avoid further complicating the editing process, suggestion is to use the date of the revision statement as the date that the YANG was turned over to the IEEE staff for final editing before publication
- At the end the file that is attached to the published standard is placed in the "published" tree in github and on the IEEE 802.1 website <https://1.ieee802.org/yang-modules/>

# Updating YANG



- Currently the only process that can be used to update and publish a revision to a YANG module is to use the IEEE Standards Development Process (maintenance, balloting, IEEE Staff Editing, etc.)
- Any change at all to a YANG file requires a new revision of the YANG module
  - See Section 11 (Updating a Module) in RFC 7950
- Once the module has been changed
  - The module is validated using the YANG Catalog tooling (continuous integration)
  - a new revision statement is added
    - The revision date is set to the date the validation starts
    - If this change is due to a maintenance issue then, the description sub-statement should include reference to the maintenance item(s)
    - The date in the name of the module is updated to reflect the new revision date.
- The new YANG file is published to the public repositories
- Fix the symbolic links

# Summary



- Actions needed
  - Use the revision date in the name of the yang file
  - For repositories that support symbolic links, provide a symbolic link to the latest revision of a module
    - Example: ietf-connection-oriented-oam.yang -> [ietf-connection-oriented-oam@2019-04-16.yang](#)
  - If the repository doesn't support symbolic links, provide a copy of the latest YANG file without the revision date in the file name
    - Publishing the same file with two different names



# Other Discussion Topics



- Stop integrating the text of the YANG/MIB module in-line in the standard
  - Provide the modules as attachments (current practice)
  - Provide difference files as attachments as well
  - Provide a link to the latest published YANG
- Explore how to publish updates outside of the IEEE Standards Development Process
  - Would Expert Review be sufficient?
  - What types of modifications would be allowed?
  - Is the process associated with Maintenance enough of a review?

