

# Node Tags in YANG Modules

draft-ietf-netmod-node-tags-10

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# Update of Document Status

- The 2<sup>nd</sup> WGLC started from April 19 and concluded in May 2
  - Thanks Andy, and Adrian for valuable comments during WGLC
- Three open issues have been discussed
  - Do we need to tag node with specific metric such as loss, counter, summary
  - Guidance on which nodes should be tagged, which nodes not
  - Should tag prefix set to mandatory?
- The main changes to v-10 include
  - Remove identityref type from YANG module to avoid duplication with IETF node tag and align with Module tag design in RFC 8819.
  - Add one key leaf using unsigned integer type to identify each data node and modify the id leaf into path leaf.
  - Clarify the colon's meaning and how it is used in the node tags.
  - Remove Appendix A and Update Appendix B to explain how additional tags can be added at the implementation time.
  - Module structure changes and YANG module code changes to align with Module tag design in RFC 8819.
  - Add relevant RFCs referencing to IETF node tags defined in section 9.2 and provide additional term definition to support IETF node tags defined in section 9.2.
  - Specify which data nodes can be tagged, which data nodes can not in section 8.1.

# Issue 1: Tag node with specific metric

- Andy believe:

“YANG authors or developer doesn’t need to tag node with specific metrics, it would be better to keep standard tags in their own RFC(s), especially something as complicated as metrics classification.”

- Do we need to tag node with specific metrics:
  - Con:
    - Focus on high level O&M data classification
      - E.g., Classify data based on FCAPS category
      - Or Classify based on identify which nodes are texture information which will not change, e.g., software revision, hardware revision, or which nodes represent a snapshot of the current state for a set of data, not go into specific metrics level (e.g., loss).
  - Pro:
    - Provide multi-level, multi-dimension data visualization
      - E.g., represent statistics data belonging to specific category
    - Provide better interoperability in multi-vendor environment
      - E.g, tag data node different vendor specific modules with the same metric type, e.g., loss
- In current version, the specific metrics such as counter, summary, loss, etc are still kept
- Comments?

# Issue 2: which nodes should be tagged, which nodes not

- Andy's comment:

“Are they supposed to add a node-tag extension to almost every leaf in the module?”

Specify which data nodes can be tagged, which data nodes can not in section 8.1 as follows:

“

A data node can contain one or multiple node tags. Not all data nodes need to be tagged. A data node to be tagged with an initial value from Table 2 can be one of 'container', 'leaf-list', 'list', or 'leaf'. The 'container', 'leaf-list', 'list', or 'leaf' node not representing a snapshot of the current state for a set of data **MUST** not be tagged. The notification and action nodes **MUST** not be tagged.

All tag values described in Table 2 can be inherited down the containment hierarchy if the data nodes tagged with those tag values is one of 'container', 'leaf-list', or 'list'.

”

Thoughts?

# Issue 3: Can Colon used in tag value

- Tag = Tag prefix+ Tag Value, Colon is part of Tag prefix, Adrian recommend to specify rules for tag format definition as follows
  - Tag prefix is not mandatory
  - All tag prefixes MUST end with a colon
  - Colons MUST NOT be used within a prefix
  - Colons SHOULD NOT be used in a tag value If you want to, you could specify a character to be used as a separator within prefixes and values (such as a period).
- However Colons can be used within a tag value
  - E.g., entno:vendor-defined-classifier
- The question is that how to avoid the confusion between a tag value that does not use a prefix but contains a colon, and a tag that has a prefix and a value.
  - For example, ietf:foo should be a tag comprising the prefix ietf: and the value foo. But a non-prefixed tag could legitimately be ietf:foo.
- Proposal:
  - Option 1: Make prefix mandatory for ietf tag and vendor tag, but not applied to user tag, for user tag, the tag value can not starts with “user:”.
  - Option 2: Make prefix mandatory for all three type Tags

Comments, Questions, Concerns?