

Security Level:

P802.3af YANG Style improvements

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YANG code style in draft is inconsistent

- **See comments; 44, 62, 63, 68, 70, 88, 89, 90, 117, 136, 137 and probably others**
- **Use of landscape orientation for Tree hierarchy is warranted but appears unnecessary for YANG modules**
- **Looking at the various modules on github reveals there is a lack of consistency between the modules code**
 - Some modules use tabs for indenting others use spaces
 - Line lengths inconsistent
 - Even within a single module there is a lack of consistency
- **The leaves the standard appearing half baked and unprofessional**

Proposed solution

- **Develop an IEEE YANG Style guide**
 - Base on RFC 6087 (already in references)
 - Very minimal – only call out necessary items to ensure the resulting modules fit well into the published standard
 - Indenting – suggest using 2 spaces
 - Indenting should be based on braces pairs “{}” and strings
 - Left braces “{” causes subsequent lines to be indented one more level
 - Right braces “}” causes subsequent lines to be indented one less level
 - Strings beginning on a separate line are indented one level
 - Strings that continue on more than one line are indented one additional space beyond the initial line
 - Limit line length to avoid line wrapping in the standard
 - A few line (long paths in particular) cannot be so treated, these can be an allowed exception
 - Remove all tab characters, especially in description strings
 - It is not clear how tabs in descriptions will appear to the end user so we shouldn't depend on them to format text in any case

Pretty YANG.xlsm

- **A tool is offered that accomplishes the formatting rules outlined above**
 - Excel VB based (very widely available)
 - Collects some statistics on modification performed (could be fed back to module authors)
 - Fairly easy to use
 1. Open tool in Excel
 2. Set a few input parameters (line length, indent size, maximum indent level in source document, maximum number of contiguous blank lines in source)
 3. Run script – open filename.yang via normal windows explorer
 4. Option to identify tab characters occurring in middle of a line
 5. Review output
 6. Copy output to your preferred text editor and save as filename.yang
 7. Repeat step 3-6 for each module
 - I would be happy to work with the TF to extend functionality if deemed necessary

Example of tool output ieee802-ethernet-interface

Original

```
enum "ingress-only" {
  description
    "PAUSE frame based flow control is enabled in the ingress direction
only.
    I.e. PAUSE frames may be transmitted to reduce the ingress
    traffic flow, but PAUSE frames received on ingress are
    dicarded without reducing the egress traffic rate.";
}
enum "egress-only" {
  description
    "PAUSE frame based flow control is enabled in the egress direction
only.
```

2

Processed

```
enum "ingress-only" {
  description
    "PAUSE frame based flow control is enabled in the ingress
    direction only. I.e. PAUSE frames may be transmitted to
    reduce the ingress traffic flow, but PAUSE frames
    received on ingress are dicarded without reducing the
    egress traffic rate.";
}
enum "egress-only" {
  description
    "PAUSE frame based flow control is enabled in the egress
    direction only. I.e. PAUSE frames are not transmitted,
```

2

Example of tool output ieee802-ethernet-oam

Original

```
leaf admin {
    type admin-state;
    default disabled;
    description
    "This object is used to provision the default administrative OAM mode
    for this interface. This object represents the desired state of OAM
    for
    this interface.
    It starts in the disabled state until an explicit management action or
    to
    configuration information retained by the system causes a transition
```

17

Processed

```
leaf admin {
    type admin-state;
    default disabled;
    description
    This object is used to provision the default
    administrative OAM mode for this interface. This object
    represents the desired state of OAM for this interface.
    It starts in the disabled state until an explicit
    management action or configuration information retained
    by the system causes a transition to the enabled(1)
```

Output statistic & file (interfaces)

Item	Param	Value	Value
		ieee802-ethernet- interface- original.yang	ieee802-ethernet- link-oam- original.yang
1	File Analysed		
2	non-blanks lines	794	988
3	blank lines	156	77
4	total lines in source	950	1065
5			
6	Long Lines found	117	33
7	Long Lines corrected	117	33
8	Uncorrectable long lines	0	0
9			
10	unmodified lines	833	1032
11	modified lines	117	33
12	lines added	11	9
13			
14	Final Line count	961	1074
15			
16	Indent Levels found	8	7
17	maxTabsPerLine	3	2
18	Number of Tabbed Lines	12	43
19	mid field tabs found	0	0
20	Output long lines (>70)	6	4
21	output Indent levels	8.5	7.5
22			
29	Input Parameters		
30	maxLineLen	65	65
31	indentSz	2	2
32	maxSrcIndent	10	10
33	maxBlankLines	10	10



TOOL DEMO

Thank you

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