



Attached herewith, for your information and comments, to demonstrate the feasibility of automatic YANG generation are the YANG modules of the following three Q14/15 defined base UML information models:

- G.874.1 “*Optical transport network (OTN): Protocol neutral management information model for the network element view*” v2.11
- G.8052/Y.1346 “*Protocol-neutral management information model for the Ethernet transport capable network element*” v1.10
- G.7711/Y.1702 “*Generic protocol-neutral information model for transport resources*” v1.02

These YANG modules were generated automatically by using the open source UML to YANG mapping tool 《xmi2yang tool-v2.0》 (<https://github.com/OpenNetworkingFoundation/EAGLE-Open-Model-Profile-and-Tools/tree/UmlYangTools>). The 《xmi2yang tool-v2.0》 tool is developed based on the UML-YANG mapping guidelines defined in and available at <https://community.opensourcetsdn.org/wg/EAGLE/document/106>.

The YANG modules output from the 《xmi2yang tool-v2.0》 tool have been validated by using the YANG tool available at <http://www.yangvalidator.com/>.

The current mapping tool is a beta version. A feature under development is the mapping of UML operations to YANG, whereas the rules of mapping UML operations into YANG “action” or “rpc” statements are already defined in the UML-YANG mapping guidelines. Your review and comments on the UML-YANG translation guidelines and the automatic tooling will be very much appreciated.

We expect other open source mapping tools will become available to allow automatic generation of additional protocol specific data models (e.g., JSON) from UML models.

The translation of the "base UML model" to YANG is to demonstrate the feasibility of automatic translation from UML to YANG. This provides confidence that the base UML model can be pruned and refactored (i.e., take a subset of the base model and in some cases simplify the structure) to provide purpose-specific UML models from which protocol-specific APIs (e.g., encoded YANG or JSON) may be compiled, such as the current work by the Transport API (TAPI) project in ONF. The use of the base UML model (with suitable pruning and refactoring) provides a coherent and inter-operable suite of purpose specific data models. This approach avoids the need for hand crafted pair-wise mediation when the same base network resources are used for different purposes (e.g., YANG models for OAM and topology that reference the same underlying resources but have been developed independently without referencing a common base model).

#### ATTACHMENTS

- [WD1014-14r1: G.874.1 and the YANG mapping](#)
  - [WD1014-15r1: G.8052 and the YANG mapping](#)
  - [WD1014-16r1: G.7711 and the YANG mapping](#)
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