

YANG Model Classification

draft-bogdanovic-netmod-yang-model-
classification-05

D. Bogdanovic, B. Claise, C. Moberg

Motivation

- YANG is currently being considered for a wide variety of applications
- Currently no well-known terminology to categorize various types of YANG models
- Consistent terminology would help with:
 - the categorization of models
 - assist in the analysis the YANG data modeling efforts in the IETF and other organizations,
 - bring clarity to the YANG-related discussions between the different groups

Proposed Taxonomy

- Document presents a set of concepts and terms to form a useful taxonomy for consistent classification of YANG models in two dimensions
 - The layering of models based on their abstraction levels
 - The type of model based on the nature and intent of the content

Dimension #1: Layers

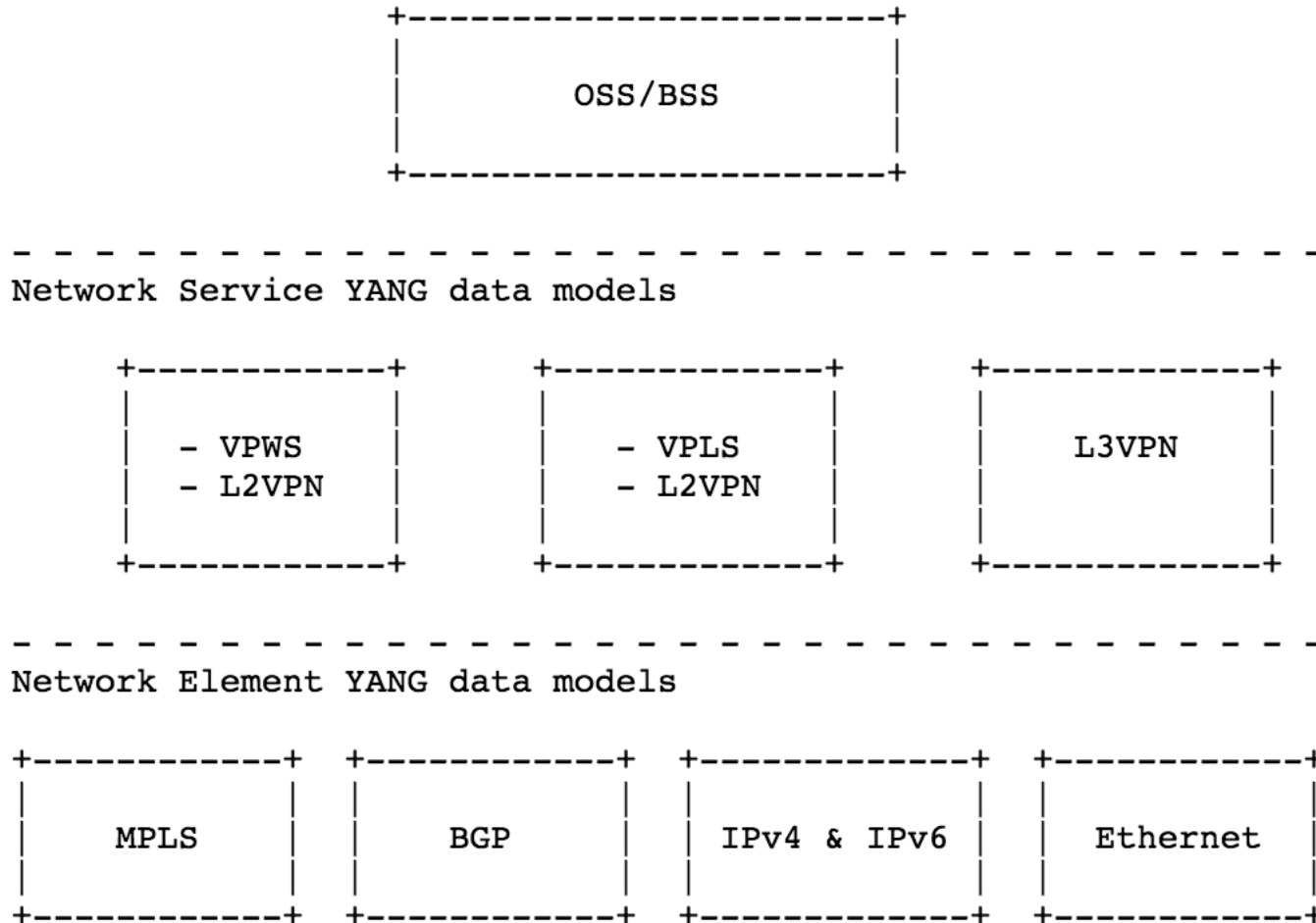


Fig. 1 YANG Model Layers

Network Service YANG Data Models

- Describes an abstract model that allows instances of the service to be decomposed into instance data according to the Network Element data models
- Service-to-element decomposition is a separate process with details depending on how the network operator chooses to realize the service.
- Examples:
 - draft-ietf-l3sm-l3vpn-service-model
 - MEF EVC-based Service Model

Network Element YANG Data Models

- Describe the configuration, state data and operations of a network device as defined by the vendor of that device
- The decomposition, ordering and execution of changes to the operating system, and application configuration is the task of the management framework that implements the YANG model.
- Examples:
 - RFC 7223 - A YANG Data Model for Interface Management
 - draft-ietf-netmod-routing-cfg

Dimension #2: Model Types

- Suggested classification applies to **both** Network Element YANG Data Models and to Network Service YANG Data Models.
 1. Standard YANG Models
 2. Vendor-specific YANG Models
 3. Vendor-specific Extensions

Standard YANG Models

- Published by standards defining organizations (SDOs)
- No formal definition of what construes an SDO, common features are:
 - They publish specifications along specific processes reflecting some sort of membership consensus
 - Developed for wide use among the membership or for audiences beyond that
- Lifecycle driven by the editing cycle of the specification and not tied to a specific implementation.
- Examples of SDOs in the networking industry are the IETF, the IEEE and the MEF

Vendor-specific YANG Models

- Developed by organizations with the intent to support specific set of implementations under control of
- Intent of models range from open published YANG models to strictly internal models
- Lifecycle generally aligned with the release cycle of the product or open source software project deliverables

Vendor-specific Extensions

- Vendors develop Vendor-specific Extensions to standard models augmenting constructs for extending data definitions of previously published models.
- Vendors use this to extend standard data models to cover the full scope of features in implementations, which commonly is broader than what is covered by the standard model.

Asks

1. Read the draft
2. Provide feedback