

# A YANG Data Model for Network Inventory

draft-ietf-ivy-network-inventory-yang-01

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# Updates Since Last IETF Meeting

- Draft Updates(PR #34)
  - ✓ Moving the section of Efficiency Issue to the appendix
  - ✓ Clarify RFC8348 container terminology
- YANG Model Updates (PR #34)
  - ✓ Add a new root prior to NE: to support inventory of fiber & cable
  - ✓ Change the configuration capabilities of attributes (still open discussion)
  - ✓ Update the description of part-number of component
  - ✓ Remove part-number attribute from NE
  - ✓ Re-introduce component-specific structure into the data model
- Discussed terminology of inventory and UCs
- Discussed the modeling of fiber and cable
- Discussed the modeling of software patch

# Discussion of Component-Specific Attributes' Structure

The comment was raised by Robert Wilton on the IETF 118 meeting.

Option 1 (case+when)

```
+-ro component* [component-id]
+-ro component-id      string
+-ro class              union
.....
+-ro (component-class)?
| +--:(chassis)
| | +-ro chassis-specific-info // when
| +--:(container)
| | +-ro slot-specific-info // when
| +--:(module)
| | +-ro board-specific-info // when
| +--:(port)
|   +-ro port-specific-info // when
.....
```

Option 2 (when-only)

```
+-ro component* [component-id]
+-ro component-id      string
+-ro class              union
.....
+-ro chassis-specific-info // when
+-ro slot-specific-info // when
+-ro board-specific-info // when
+-ro port-specific-info // when
.....
```



Option 3 (case-only)

```
+-ro component* [component-id]
+-ro component-id      string
+-ro (class)
| +--:(chassis)
| | +-ro chassis!
| +--:(container)
| | +-ro container!
| +--:(module)
| | +-ro module!
| +--:(port)
|   +-ro port!
.....
```

- Option 1 provides duplicated information according NETMOD's discussion;
- Option 3 cannot provide filtering capability;

# Discussion of Configuration Capabilities of Inventory YANG

- Some possible UCs were discussed:
  - UC1: Configuring User-Defined Information for Inventory Objects
  - UC2: Configuring Maintenance Status of NEs
  - UC3: Configuring of ASON Switch
  - UC4: Configuration/creation of virtual NEs
  - UC5: Configuration of power parameters
  - UC6: Management of intended/planned NE configuration
  
- What have been agreed:
  - It is suggested to start with a data model mostly with read only attributes;
  - For some user-defined information, it should be able to configure through NBI;
  - There is a need to support the configuration of expected/intended inventory elements;
  
- For the other UCs, more investigation is still needed.

# Discussion of Modeling of Fiber and Cable

- What have been agreed:
  - A new root container for inventory model;
  - There is no need to report MW connectivity and it should be reported in the topology model;
  - It is optional element because it is not under controlled of network controller;
  - The scope of fiber & cable is not limited to fibers/cables between NEs but also in a same NE;
  
- What have been discussed but not finalized:
  - Align with TAPI model's terminology;
  - Define a augmentation model or define in the base model directly;

## Some Other Discussions

- **Modeling of software patch:** agreement was reached to add a software-patch-rev list attribute for the components.
- **Part-number:** Remove part-number from NE and update the description of component's part-number to be "The vendor-specific part number of the component type. It is expected that vendors assign unique part numbers to different component types within the scope of the vendor."

## Next Step

- Continue the discussion of terminology and UCs;
- Continue the discussion of modeling of fiber & cable;
- Start the discussion of MPO port modeling;
- Try to close more issues on GitHub;