Yang Data Model for Network Inventory

draft-dong-i2rs-network-inventory
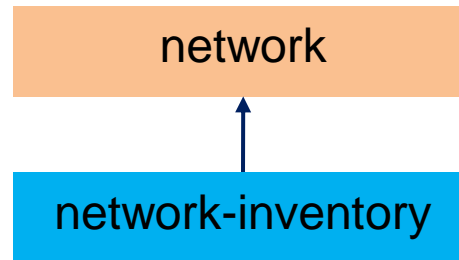
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Motivation

- The requirement of collecting network inventory information is specified in
  - draft-medved-i2rs-topology-requirements and
  - draft-amante-i2rs-topology-use-cases

- During the discussion of L2-topology model, received suggestions to separate topology properties and inventory information

- This document defines the network inventory data model

Network Inventory Model

- Based on the generic network model in
  - draft-clemm-i2rs-yang-network-topo-04

- Augments the network module with
  - Node specific parameters, capabilities and status
  - List of components
    - Cards: capabilities and status
    - Interfaces: parameters and status

Network Inventory Yang Module

```
module: network-inventory
augment /ntw:network/ntw:node:
    +--rw node-name?                string
    +--rw node-description?         string
    +--rw hardware-version?         string
    +--rw software-version?         string
    +--ro capability-supported*     node-capability
    +--rw capability-enabled*       node-capability
    +--rw node-status?              node-status
    +--rw power-consumption?        uint32
    +--rw card* [card-id]
    |  +--rw card-id                inet:uri
    |  +--rw card-description?      string
    |  +--rw card-type?            identityref
    |  +--rw card-capability*       card-capability
    |  +--rw admin-status?          card-status
    +--rw interface* [if-name]
        +--rw if-name              if:interface-ref
        +--rw description?         string
        +--rw card-ref?            leafref
        +--rw if-type?             identityref
        +--rw phys-address?        yang:phys-address
        +--rw transceiver?         identityref
        +--rw throughput?          uint64
        +--rw admin-status?        enumeration
        +--ro oper-status?         enumeration
```

Comments Received

- Separate the yang model of entity-mib from inventory
  - Design team of entity-mib yang model just kicks off
  - Inventory can reference the entity yang module

- Should reference ietf-interface module
  - Possibly augment it

- Suggests to define a base model and use augmentation for more specific things
  - Add examples of augmentation

- Whether/how to describe the generic capabilities of network nodes and components?
  - May be helpful for network device selection

Next Steps

- Revise the model/draft based on feedbacks

- Coordinate with entity-mib yang module

- Contributions are welcome!