A YANG Data Model for Network Inventory Location

draft-wbbpb-ivy-network-inventory-location

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Inventory Location Model Background

draft-ietf-ccamp-network-inventory-yang

```
+--ro network-hardware-inventory
   +--ro equipment-rooms
   |  +--ro equipment-room* [uuid]
   |     +--ro uuid        yang:uuid
   |     ....................................
   |     +--ro racks
   |        +--ro rack* [uuid]
   |           +--ro uuid          yang:uuid
   |           ....................................
   +--ro network-elements
      +--ro network-element* [uuid]
         +--ro uuid          yang:uuid
         ....................................
         +--ro components
            +--ro component* [uuid]
               +--ro uuid             yang:uuid
```

draft-wzwb-opsawg-network-inventory-management

```
augment /nw:networks/nw:network/nw:node:
  +--ro node-type?              Identityref
  +--rw site?                   String
  +--rw geo-location
  |        ....................................
```

draft-ietf-ivy-network-inventory-yang

```
module: ietf-network-inventory
  +--rw network-inventory
     +--rw network-elements
        +--rw network-element* [ne-id]
           +--rw ne-id           string
        ....................................
           +--rw components
              +--rw component* [component-id]
              +--rw component-id          string
              ....................................
```

```
module: ietf-ni-location
  +--rw locations
     +--rw location* [id]
     |  +--rw id                yang:uri
     |  |    ...
     |  +--rw location-type?     identityref
     |  |    ...
     |  +--rw geo-location
     |        ...
     +--rw racks
        +--rw rack* [id]
           ...
```

- Location information is not defined in the base Network Inventory model, since these info can not be **obtained or verified from NEs** - Usually **configured manually** in SDN controllers or managed in OSS

The **location type**:

- Specific: room, rack, building
- Abstract: site

Locations can be nested to form a **hierarchy**:

- Buildings within a site
- Rooms in a building

Current YANG Model

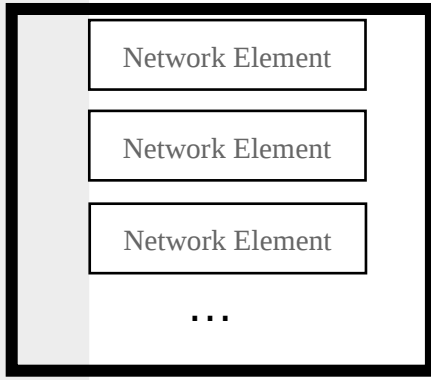
```
module: ietf-ni-location
 +--rw locations
   +--rw location* [id]
    |  +--rw id                  yang:uri
    |  +--rw name?               string
    |  +--rw description?        string
    |  +--rw alias?              string
    |  +--rw location-type?      identityref
    |  +--rw parent?             -> ../../location/id
    |  +--rw child*              -> ../../location/id
    |  +--rw physical-address
    |  |     ...
    |  +--rw geo-location
    |        ...
   +--rw racks
     +--rw rack* [id]
          ...
```

1.The **"location"** list is generalized to support abstract locations, such as sites, as well as concrete type of location, such as room, building.

2.A **site** is defined as a location type that represents an abstract geographical location. Buildings, equipment rooms, and racks can be further grouped in a site.

```
+--rw racks
    +--rw rack* [id]
     +--rw id                  yang:uri
     |   ...
     +--rw rack-location
     |  +--rw location-ref?    -> /locations/location/id
     |  +--rw row-number?      uint32
     |  +--rw column-number?   uint32
     +--rw height?             uint16
     |   ...
     +--rw max-voltage?        uint16
     +--rw max-allocated-power? uint16
     +--rw contained-chassis* [ne-ref component-ref]
       +--rw ne-ref
       |     -> /nwi:network-elements/network-element/id
       +--rw component-ref     leafref
       +--rw relative-position? uint8
```

3."**racks**" represent physical equipment racks in which Network Elements (NEs) can be installed, which facilitate device maintenance.




```
augment /nwi:network-elements/nwi:network-element:
 +--rw locations
   +--rw location*   -> /locations/location/id
   +--rw rack?       -> /locations/racks/rack/id
```

4.The **base network inventory model** can be extended to add location references.

- Discussion Points:

"racks" defines a separate list instead of inside "location" list. 1) Some scenarios do not require rack management; 2) Buildings or rooms models may be extended in the future. But there are comments of a different preference.

Next Step

- Solicit WG review and feedbacks
- Solicit WG adoption