YANG Model for Scheduled Attributes

draft-united-tvr-schedule-yang

Yingzhen Qu, Acee Lindem, Eric Kinzie, Don Fedyk, Marc Blanchet

Changes since IETF 121

- In the device model ietf-tvr-node, changed the node-id type from “dotted-quad” to “uri”. It’s now consistent with the service model.
- Editorial changes

Design of the Model

- TVR Schedule YANG Moduel

  Module ietf-tvr-schedule uses the groupings defined in the ietf-schedule.yang and contains common YANG definitions for time-variant schedule.

- TVR Node YANG Module

  Module ietf-tvr-node.yang is a device model and designed to manage a single node with scheduled attributes.

- TVR Topology YANG Module

  Module ietf-tvr-topology.yang describes a network topology with a time-variant availability schedule.

```
list schedules {
  key schedule-id;
  leaf schedule-id {
    type uint32;
    description
      "Identifies the schedule.";
  }
  choice schedule-type {
    description
      "Choice of schedule type.";
    case period {
      description
        "A schedule with a single instance.
      uses schedule:period-of-time;
    }
    case recurrence {
      description
        "A schedule with recurrence. The time is defined in UTC
         format.";
      uses schedule:recurrence-utc;
    }
  }

  container attr-value {
    description
     "Attribute value(s). This container should be augmented
      with attributes that apply to the current interval.";
  }
  description
    "list of schedules.";
}
description
```

A list of schedules identified by a “schedule-id”

A series of periods

Schedule with recurrence. UTC only.

Module ietf-tvr-schedule.yang – Grouping schedule

```
+--rw schedules* [schedule-id]
   +--rw schedule-id                       uint32
   +--rw (schedule-type)?
   |  +--:(period)
   |  |  +--rw period-description?         string
   |  |  +--rw period-start                yang:date-and-time
   |  |  +--rw time-zone-identifier?       sys:timezone-name
   |  |  +--rw (period-type)?
   |  |     +--:(explicit)
   |  |     |  +--rw period-end?           yang:date-and-time
   |  |     +--:(duration)
   |  |        +--rw duration?             duration
   |  +--:(recurrence)
   |     +--rw recurrence-first
   |     |  +--rw utc-start-time?   yang:date-and-time
   |     |  +--rw duration?         uint32
   |     +--rw (recurrence-bound)?
   |     |  +--:(until)
   |     |  |  +--rw utc-until?             yang:date-and-time
   |     |  +--:(count)
   |     |     +--rw count?                 uint32
   |     +--rw recurrence-description?      string
   |     +--rw frequency                    identityref
   |     +--rw interval?                    uint32
   +--rw attr-value
```

Module ietf-tvr-node.yang

```
module: ietf-tvr-node
  +--rw node-schedule
     +--rw node-id?              inet:uri
     +--rw node-power-schedule
     |  +--rw power-default?   boolean
     |  +--rw schedules* [schedule-id]
     |     +--rw schedule-id                  uint32
     |     |  ...
     |     +--rw attr-value
     |        +--rw power-state?   boolean
     +--rw interface-schedule
        +--rw interfaces* [name]
           +--rw name                union
           +--rw default-available?    boolean
           +--rw default-bandwidth?    yang:gauge64
           +--rw attribute-schedule
              +--rw schedules* [schedule-id]
                 +--rw schedule-id                uint32
                 |  ...
                 +--rw attr-value
                    +--rw available?   boolean
                    +--rw bandwidth?   yang:gauge64
                    +--rw neighbor?    inet:uri
```

URI

Module ietf-tvr-topology.yang

```
module: ietf-tvr-topology
  +--rw topology-schedule
     +--rw nodes* [node-id]
     |  +--rw node-id      inet:uri
     |  +--rw available
     |     +--rw default-node-available?   boolean
     |     +--rw schedules* [schedule-id]
     |        |   ...
     |        +--rw attr-value
     |           +--rw node-available?   boolean
     +--rw links* [source-node source-link-id]
        +--rw source-node       inet:uri
        +--rw source-link-id    string
        +--rw available
           +--rw schedules* [schedule-id]
           |  +--rw schedule-id                    uint32
           |  |  ...
           |  +--rw attr-value
           |     +--rw link-available?     boolean
           |     +--rw bandwidth?          yang:gauge64
           |     +--rw delay?              uint32
           |     +--rw destination-node?   inet:uri
           +--rw default-link-available?   boolean
           +--rw default-bandwidth?        yang:gauge64
           +--rw default-delay?            uint32
```

Next Steps

- Wait for the requirement document?
- Request YANG Doctor review
- Reviews and comments are welcome
- Any more attributes should be considered?

THANKS!