A Yang Data Model for WSON Optical Networks

draft-ietf-ccamp-wson-yang-04.txt

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- Updated Link Attributes and added operational-state:

```
augment
/nd:networks/nd:network/lnk:link/tet:te/tet:config/tet:te-
link-attributes:
    +--rw channel-max?                  int32
    +--rw default-frequency?            decimal64
    +--rw channel-spacing?              decimal64
    +--rw wavelength-available-bitmap*  binary
augment
/nd:networks/nd:network/lnk:link/tet:te/tet:state/tet:te-link-
attributes:
    +--ro channel-max?                  int32
    +--ro default-frequency?            decimal64
    +--ro channel-spacing?              decimal64
    +--ro wavelength-available-bitmap*  binary
```

Updates from the previous version

- Updated Node Attributes

```
augment /nd:networks/nd:network/nd:node/tet:te/tet:config/tet:te-node-
attributes:
   +--rw wson-node
   |  +--rw device-type?   devicetype
   |  +--rw dir?           directionality
   |  +--rw interfaces* [name]
   |     +--rw name           string
   |     +--rw port-number?   uint32
   |     +--rw input-port?    boolean
   |     +--rw output-port?   boolean
   |     +--rw description?   string
   +--rw resource-pool* [resource-pool-id]
      +--rw resource-pool-id    uint32
      +--rw pool-state?         boolean
      +--rw matrix-interface* [in-port-id]
         +--rw in-port-id    wson-interface-ref
         +--rw out-port-id?  wson-interface-ref
```

Updates from the previous version

- Added Operational-State for the Node Attributes

```
augment /nd:networks/nd:network/nd:node/tet:te/tet:state/tet:te-node-
attributes:
    +--ro wson-node
    |   +--ro device-type?    devicetype
    |   +--ro dir?            directionality
    |   +--ro interfaces* [name]
    |      +--ro name          string
    |      +--ro port-number?  uint32
    |      +--ro input-port?   boolean
    |      +--ro output-port?  boolean
    |      +--ro description?  string
    +--ro resource-pool* [resource-pool-id]
        +--ro resource-pool-id    uint32
        +--ro pool-state?         boolean
        +--ro matrix-interface* [in-port-id]
            +--ro in-port-id    wson-interface-ref
            +--ro out-port-id?  wson-interface-ref
```

Current Status & Next Steps

- Need to align with the latest updates from [TE-Topo] draft if any.

YANG data model for Flexi-Grid Optical Networks

draft-vergara-ccamp-flexigrid-yang-04

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Motivation

- Existing YANG models are either technology-agnostic or technology-specific
  - draft-ietf-i2rs-yang-network-topo and draft-ietf-teas-yang-te-topo are generic: they have to be extended for each specific technology
  - draft-ietf-ccamp-wson-yang is specific for WSON technology, extending draft-ietf-teas-yang-te-topo
- We propose a YANG model related to a Flexi-Grid Traffic Engineering Database
  - Based on the ideas presented at RFC 7698: "Framework and Requirements for GMPLS-Based Control of Flexi-Grid Dense Wavelength Division Multiplexing (DWDM) Networks"
  - It also extends from existing generic YANG models

Main changes from prior version

- Still two sub-models
  - Flexi-grid-TED
    - Now flexi-grid-transponder and flexi-grid-sliceable-transponder extend TE Tunnel Termination Point (TTP) from draft-ietf-yang-te-topo.
  - Media-channel
    - Now reference types are taken from draft-ietf-yang-te-topo.
    - It keeps almost the same as previous versions, as it takes the information from the Flexi-grid-TED, which is the one that mostly changes.
  - Both models are now implemented in YANG 1.1.
  - The model changes have been validated with different tools: pyang, confdc and yanglint.

Future work

- Two goals:
  - Augment the media-channel from the TE-tunnel model.
  - Evaluate using application-code instead of explicit list of modulations.
  - Define a single operational-mode attribute for the optical channel in transponders instead of a complete list of attributes. This is similar to the OpenConfig approach.
  - Split current draft in two: one for the TED and another one for the media-channel.
  - Ask for WG adoption on the TED part.

Comments?
Thanks!