A Yang Data Model for WSON Optical Networks

draft-ietf-ccamp-wson-yang-15

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Updates Since IETF 100

- Created Github to manage all L0 models aross WSON & Flexi-grid:
  https://github.com/younglee-ietf/actn-wson-flexi-grid
- Introduced a new ietf-layer0-types module (
  https://github.com/younglee-ietf/actn-wson-flexi-grid/blob/master/ietf-layer0-types%402018-10-22.yang
) to define groupings that are used to both WSON and Flex-grid modules, e.g.,
  - Node types,
  - Application code based on ITU-T G.698.2,
  - Wavelength Assignment Policy.
  - Client types, etc.
- Complete augmentation of TE-topology model is now available; in particular, on all modules that require WSON specific labels and bandwidth types.

IETF-WSON-TOPOLOGY Model (https://github.com/younglee-ietf/actn-wson-flexi-grid/blob/master/ietf-wson-topology.tree)

```
module: ietf-wson-topology
  augment /nw:networks/nw:network/nw:network-types/tet:te-topology:
    +--rw wson-topology!
  augment /nw:networks/nw:network/nt:link/tet:te/tet:te-link-attributes:
  augment /nw:networks/nw:network/nw:node/nt:termination-point/tet:te:
    +--rw supported-payload-types* [index]
    | +--rw index          uint16
    | +--rw payload-type?   string
    +--rw client-facing?          boolean
  augment /nw:networks/nw:network/nw:node/tet:te/tet:te-node-attributes:
    +--rw wson-node
      +--rw node-type?   identityref
  augment /nw:networks/nw:network/nw:node/tet:te/tet:tunnel-termination-point:
    +--rw supported-operational-modes*    te-wson-types:operational-mode
    +--rw configured-operational-modes?   te-wson-types:operational-mode
    +--rw supported-fec-types*          identityref
    +--rw supported-termination-types*   identityref
    +--rw supports-bit-stuffing?        boolean
  augment /nw:networks/nw:network/nw:node/nt:termination-point/tet:te/tet:interface-switching-capability/tet:max-lsp-
bandwidth/tet:te-bandwidth/tet:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /nw:networks/nw:network/nw:node/tet:te/tet:te-node-attributes/tet:connectivity-matrices/tet:path-constraints/tet:te-
bandwidth/tet:technology:
    +--:(wson)
      +--rw supported-bandwidth-list*   identityref
```

Current Status & Next Steps

- The draft is stable and ready for YANG doctor's review and WG LC.

A Yang Data Model for WSON Tunnel

draft-ietf-ccamp-wson-tunnel-model-02

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Overview

- WSON TE Tunnel Model (ietf-te-wson)
- Augments ietf-te.
- Imports ietf-otn-types for source and destination client signal.
- Imports ietf-layer0-types for layer 0 specific groupings.
- NMDA Compliant Model

Updates Since IETF 100

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  https://github.com/younglee-ietf/actn-wson-flexi-grid
- Introduced a new ietf-layer0-types module (
  https://github.com/younglee-ietf/actn-wson-flexi-grid/blob/master/ietf-layer0-types%402018-10-22.yang
) to define groupings that are used to both WSON and Flex-grid modules, e.g.,
    - Node types,
    - Application code based on ITU-T G.698.2
    - Wavelength Assignment Policy.
    - Client types, etc.
- Complete augmentation of TE-tunnel model is now available; in particular, on all modules that require WSON specific labels and bandwidth.

IETF-WSON-Tunnel Model

(https://github.com/younglee-ietf/actn-wson-flexi-grid/blob/master/ietf-wson-tunnel%402018-10-18.tree)

```
module: ietf-wson-tunnel
  augment /te:te/te:tunnels/te:tunnel:
    +--rw src-client-signal?   identityref
    +--rw dst-client-signal?   identityref
    +--rw fec-type?            identityref
    +--rw termination-type?    identityref
    +--rw bit-stuffing?        boolean
  augment /te:te/te:globals/te:named-path-constraints/te:named-path-constraint/te:te-bandwidth/te:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /te:te/te:tunnels/te:tunnel/te:te-bandwidth/te:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /te:te/te:tunnels/te:tunnel/te:p2p-primary-paths/te:p2p-primary-path/te:te-bandwidth/te:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /te:te/te:tunnels/te:tunnel/te:p2p-primary-paths/te:p2p-primary-path/te:p2p-reverse-primary-path/te:te-bandwidth/te:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /te:te/te:tunnels/te:tunnel/te:p2p-secondary-paths/te:p2p-secondary-path/te:te-bandwidth/te:technology:
    +--:(wson)
      +--rw bandwidth-type?   identityref
  augment /te:te/te:globals/te:named-path-constraints/te:named-path-constraint/te:explicit-route-objects/te:route-object-exclude-
always/te:type/te:label/te:label-hop/te:te-label/te:technology:
    +--:(wson)
      +--rw (grid-type)?
        +--:(dwdm)
        | +--rw (single-or-super-channel)?
        |   +--:(single)
        |   | +--rw channel-freq?       frequency-thz
        |   +--:(super)
        |     +--rw subcarrier-channels*   frequency-thz
        +--:(cwdm)
          +--rw channel-wavelength?    uint32
```

Current Status & Next Steps

- The draft depends on te-tunnel model stability, which should be soon attained.

- Other than the dependency of te-tunnel model, the model is ready for YANG doctor's review and WG LC.

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Thank You!