A YANG Data Model for Layer 1 Types
draft-ietf-ccamp-layer1-types-01

YANG Model for OTN Topology
draft-ietf-ccamp-otn-topo-yang-09

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Main Content in ietf-layer1-types

Model Relationship:

- ietf-layer1-types
  - ietf-otn-topology
  - ietf-otn-tunnel
  - ietf-l1csm

Types in Layer1

<table>
<thead>
<tr>
<th>Base Type</th>
<th>Detailed Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>odu-type</td>
<td>ODU0/ODU1/ODU1e/ODU2/ODU2e/ODU3/ODU3e1/ODU3e2/ODU4/ODUflex</td>
</tr>
<tr>
<td>Client-signal</td>
<td>ETH: 1Gb/10Gb-LAN/10Gb-WAN/40Gb/100Gb</td>
</tr>
<tr>
<td></td>
<td>STM: STM-1/4/16/64/256</td>
</tr>
<tr>
<td></td>
<td>OC: OC-3/12/48/192/768</td>
</tr>
<tr>
<td></td>
<td>FC: FC-100/200/400/800/1200/1600/3200</td>
</tr>
<tr>
<td></td>
<td>FICON: 4G/8G</td>
</tr>
</tbody>
</table>
Changes Since -01

- Checked RFC8407 YANG Guideline;
- Added text Description of grouping usage;
  - Clarified relationship between TPN and TS;

As described in [RFC7139], the OTN label usually represents the Tributary Port Number (TPN) and the related set of Tributary Slots (TS) assigned to a client layer ODU LSP (LO ODUj or ODUk) on a given server layer ODU (HO-ODU or ODUcn, respectively) Link (e.g., ODU2 LSP over ODU3 Link). Some special OTN label values are also defined for an ODUk LSP being setup over an OTUk Link.

- Renamed a few grouping names to fit in ‘OTN term’;
  - otn-label-restriction -> otn-label-range-info;
  - otn-link-label -> otn-label-start-end;
  - otn-path-label -> otn-label-hop;
Changes Since -01

• Added leaf-list in otn-label-range-info;

```yaml
leaf-list odu-type-list {
  type identityref {
    base odu-type;
  }
  description
    "List of ODU types to which the label range applies.
    Empty odu-type-list means all the ODU types are applicable
    per label range. ";
}
```

• Removed the identity ‘ODUCn’,
  – As not a ‘switching type’ in base odu-type;

• Change the range of TPN/TS in description to ‘1..4095’;

• Add back the coding function (defined in MEF63) for the usage in L1CSM;
  – MEF63 definition: “Functionality which encodes bits for transmission and the corresponding decode upon reception”
Next Step

• Harmonize with related models;
  – Done for ietf-te-types, ietf-otn-topology, ietf-otn-tunnel, ietf-l1csm;
  – Open in ietf-layer0-types;
    • Grouping names changes has to be aligned as well
      – Eg. Wson-label-restriction ▶ wson-label-range-info

• Request for WG LC & YANG Doctor Review;
Main Content in ietf-otn-topology

```
module: ietf-otn-topology
augment /nw:networks/nw:network/nw:network-types/tet:te-topology:
    +++rw otn-topology!
augment /nw:networks/nw:network/nt:link/tet:te/tet:te-link-attributes:
    +++rw tsg? identityref
    +++rw distance? uint32
augment /nw:networks/nw:network/nw:node/nt:termination-point/tet:te:
    +++rw client-svc!
    +++rw client-facing? boolean
    +++rw supported-client-signal* identityref
```

**Attributes Augmentation**

**Bandwidth Augmentation**

For label-start/label-end;

```
+++:(otn)
    +++rw (otn-label-type)?
    +++:(tributary-port)
    |   +++rw tpn? uint16
    +++:(tributary-slot)
    |   +++rw ts? uint16
```

For label-hop;

```
+++:(otn)
    +++ro tpn? uint16
    +++ro tsg? identityref
    +++ro ts-list? string
```

For label-restriction;

```
+++ro range-type? identityref
+++ro tsg? identityref
+++ro priority? uint8
```
Summary of Changes (with -07)

• No Text Changes:

• YANG model Changes:
  • Reformat the tree to satisfy IETF line length restriction;
  • Harmonized with ietf-layer1-types:
    – Added the otn-label-step and set it as 1 for OTN;
Next Step

- Request for WG LC/YANG Doctor Review;
  - Together with ietf-layer1-types would be efficient;

- Model available at:
  - ietf-layer1-types:
  - ietf-otn-topology: