YANG Models for Transport Client Signals

CCAMP WG, IETF102, Montreal, Canada

draft-zheng-ccamp-client-signal-yang-00

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Changes from the previous version

- Rename the draft:
  - A YANG Data Model for Optical Transport Network Client Signals;

- Client modeling Categories;
  - Carrier Ethernet (non-transparent);
  - Other Transport Network Client Signal (transparent)
Key Features for Transparent Client Signal
- No switching needed at client layer;
- No Tunnel model needed;
- Topology model provides only the access links
- Only point-to-point and port-based mapping
- Both access links have the same client signal type, rate and coding

Typical transparent client signal:
- SDH/SONET (STM-n, OC-N);
- SAN Storage (ESCON, FICON, FICON4G, FICON8G, FC100, FC200);
- Ethernet PHY (GE, 10GE, 40GE, 100GE);

Parameters to be Configured:
- Client signal Type;
- Mapping between the client access link(s) and Transport tunnel;
YANG model for Transparent

module: ietf-trans-client-service
  +--rw client-svc
    +--rw client-svc-instances* [client-svc-name]
      +--rw client-svc-name string
      +--rw client-svc-descr? string
      +--rw access-provider-id? te-types:te-global-id
      +--rw access-client-id? te-types:te-global-id
      +--rw access-topology-id? te-types:te-topology-id
      +--rw admin-status? identityref
    +--rw src-access-ports
      +--rw access-node-id? te-types:te-node-id
      +--rw access-ltp-id? te-types:te-tp-id
      +--rw client-signal? identityref
    +--rw dst-access-ports
      +--rw access-node-id? te-types:te-node-id
      +--rw access-ltp-id? te-types:te-tp-id
      +--rw client-signal? identityref
    +--rw svc-tunnels* [tunnel-name]
      +--rw tunnel-name string
      +--ro operational-state? identityref
      +--ro provisioning-state? identityref
Ethernet Non-transparent Client Signal

- Typical non-transparent client signal:
  - Carrier Ethernet (EPL, EVPL, EPLan, ...);
- Key Features for Ethernet Non-transparent Client Signal
  - Can be point-to-point, multipoint-to-multipoint or rooted-multipoint
  - Access links have the same client signal type (Ethernet) but they can have different rates and coding
  - Packet-based mapping: VLAN classification and operations are possible
  - No Tunnel model needed;
  - Topology model provides only the access links
    - Candidate draft: draft-zheng-ccamp-client-topo-yang;
- Parameters to be Configured:
  - Basic Service parameters;
  - Explicit Ethernet Service Profiles;
  - Network access information (including VLAN classification and operations);
YANG model for non-transparent

<table>
<thead>
<tr>
<th>Eth-specific Attributes</th>
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<tbody>
<tr>
<td>+--rw CIR?</td>
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<tr>
<td>+--rw CBS?</td>
</tr>
<tr>
<td>+--rw EIR?</td>
</tr>
<tr>
<td>+--rw EBS?</td>
</tr>
<tr>
<td>+--rw color-aware?</td>
</tr>
<tr>
<td>+--rw coupling-flag?</td>
</tr>
<tr>
<td>+--rw ethht-svc-instances* [ethht-svc-name]</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Basic Service Information</th>
</tr>
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<tbody>
<tr>
<td>+--rw ethht-svc-name</td>
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<tr>
<td>+--rw ethht-svc-descr?</td>
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<tr>
<td>+--rw ethht-svc-type?</td>
</tr>
<tr>
<td>+--rw access-provider-id?</td>
</tr>
<tr>
<td>+--rw access-client-id?</td>
</tr>
<tr>
<td>+--rw access-topology-id?</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Access Information</th>
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<tbody>
<tr>
<td>+--rw ethht-svc-access-ports* [access-port-id]</td>
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</tbody>
</table>

```plaintext
+--rw CIR?               uint64
+--rw CBS?               uint64
+--rw EIR?               uint64
+--rw EBS?               uint64
+--rw color-aware?       boolean
+--rw coupling-flag?     boolean
+--rw ethht-svc-instances* [ethht-svc-name]
    +--rw ethht-svc-name      string
    +--rw ethht-svc-descr?    string
    +--rw ethht-svc-type?     ethht-types:service-type
    +--rw access-provider-id?  te-types:te-global-id
    +--rw access-client-id?   te-types:te-global-id
    +--rw access-topology-id? te-types:te-topology-id
    +--rw ethht-svc-access-ports* [access-port-id]
         |    +--rw access-port-id        uint16
         |    +--rw access-node-id?       te-types:te-node-id
         |    +--rw access-ltp-id?        te-types:te-tp-id
```
Ethernet Client Tunnel

- Key Features for Ethernet Client Tunnel
  - Hop-based, Switching needed at client layer;
  - **Topology/Tunnel model needed**;
    - Candidate draft: [draft-zheng-ccamp-client-topo-yang](#);
    - Candidate draft: [draft-zheng-ccamp-client-tunnel-yang](#);
Open Issues & Next Step

• Expect consensus on current transparent/non-transparent separation;

• Model available on:

• Ask for WG Adoption;