YANG Models for Transport Client Signals

CCAMP WG, IETF103, Bangkok, Thailand

draft-zheng-ccamp-client-signal-yang-03

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Changes from IETF 102

• Revision on module ietf-eth-tran-service:
  – Added few service parameters: ID, customer, etc.,
  – Updated to use the topology identifiers defined in TE Types
  – Added the option to configure the bandwidth profile values (in addition to reference a named bandwidth profile)
  – Added default PCP configuration
  – Added the lifecycle state configuration
  – Fixed some compiling errors

• Revision on module ietf-trans-client-service:
  – Updated to use the topology identifiers defined in TE Types
  – Updated to use the service types defined L1 Service Types
  – Added the administrative state configuration

• Revision on ietf-eth-tran-types:
  – Added the lifecycle states definitions
Key Features for Transparent Client Signal:
- No switching needed at client layer
- Only point-to-point and port-based mapping
- Both access links have the same client signal type, rate and coding
- No Tunnel model needed
- Topology model provides only the access links

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:
- Basic Service information
- Access information (including Client signal Type)
- Mapping to Transport tunnel
YANG model for Transparent Basic Service Information Mapping to Transport Tunnel

```
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 te-topology-identifier
            | +--rw provider-id? te-types:te-global-id
            | +--rw client-id?  te-types:te-global-id
            | +--rw topology-id? te-types:te-topology-id
        +--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
            +--rw admin-status? identityref
            +--ro operational-state? identityref
            +--ro provisioning-state? identityref
```
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.

Typical non-transparent client signal:
- Carrier Ethernet (EPL, EVPL, EPLan, ...);

Parameters to be Configured:
- Basic Service information
- Access information (including VLAN classification and operations);
- Ethernet Bandwidth Profiles;
- Mapping to Transport tunnels;
YANG model for non-transparent

Basic Service Information

++-rw ethst-svc-instances* [ethst-svc-name]
  +--rw ethst-svc-name           string
  +--rw ethst-svc-descri?        string
  +--rw ethst-svc-type?          ethst-types:service-type

Access Information

++-rw te-topology-identifier
  +--rw provider-id?             te-types:te-global-id
  +--rw client-id?               te-types:te-global-id
  +--rw topology-id?             te-types:te-topology-id
++-rw ethst-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
  +--rw service-classification-type? identityref

Eth-specific Bandwidth Profile

++-rw CIR?                      uint64
++-rw CBS?                      uint64
++-rw EIR?                      uint64
++-rw EBS?                      uint64
++-rw color-aware?              boolean
++-rw coupling-flag?            boolean
**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

- Ask for WG Adoption;