YANG Models for Transport Client Signals

CCAMP WG, IETF103, Bangkok, Thailand

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

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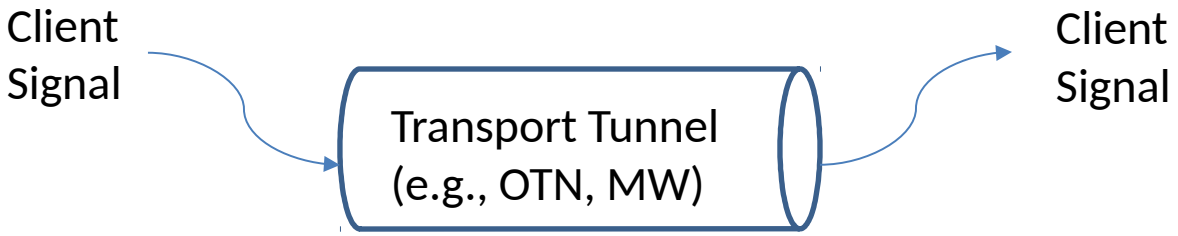
Changes from IETF 102

- Revision on module ietf-eth-tran-service:
  - Added few service parameters: ID, customer, etc.,
  - Updated to use the toppology identifiers defined in TE Types
  - Added the option to configure the bandwdith profile values (in addition to reference a named bandwidht 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 toppology 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

Transparent Client Signal



- 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

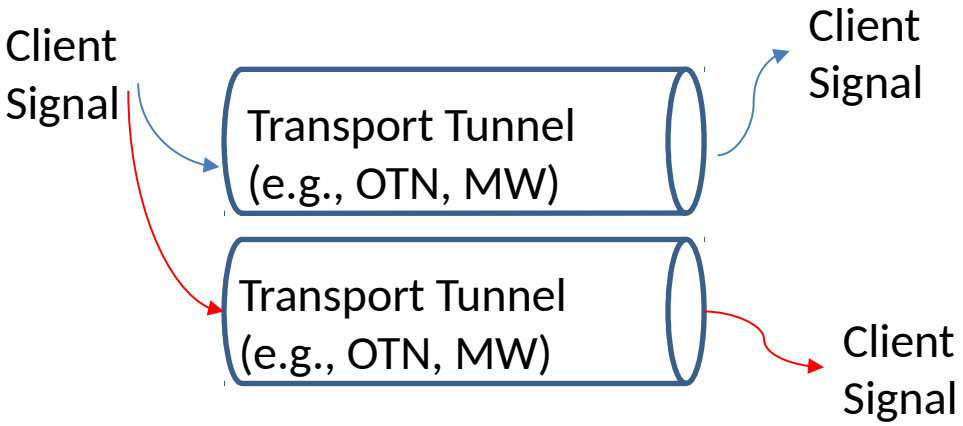
Basic Service Information

Access 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
```

Ethernet Non-transparent Client Signal



- 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 etht-svc-instances* [etht-svc-name]
   +--rw etht-svc-name              string
   +--rw etht-svc-descr?            string
   +--rw etht-svc-type?             etht-types:service-type
```

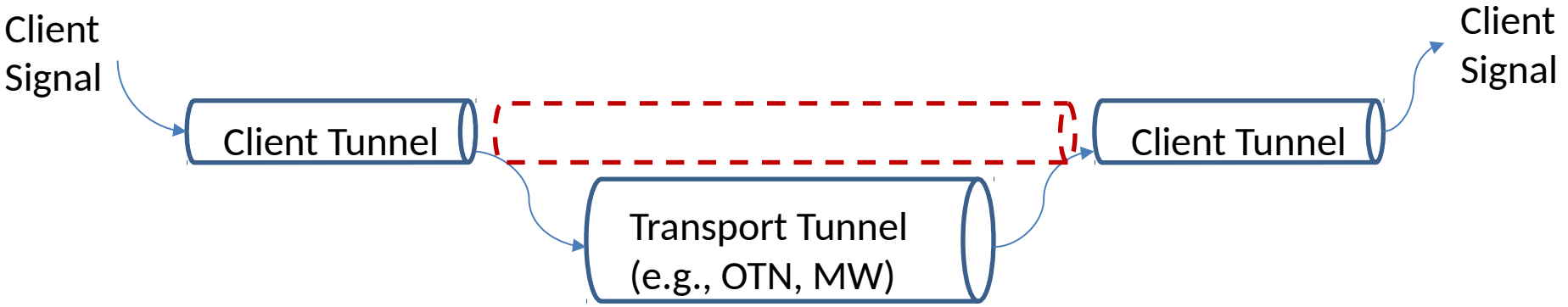
Access Information

```
+--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 etht-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;
- Model available on: https://github.com/haomianzheng/IETF-ACTN-YANG-Model/tree/master/YANG/ccamp/Client-signal-yang ;