

Traffic Engineering and Service Mapping Yang Model

draft-lee-teas-te-service-mapping-yang-04

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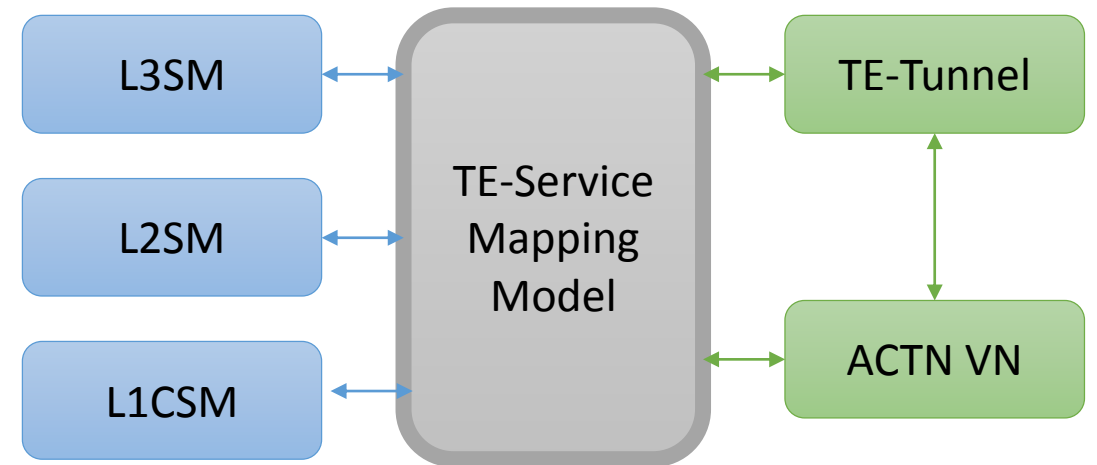
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TE-Service Mapping Model

- The role of TE-service Mapping model is to create a mapping relationship between -
 - Services – L3SM, L2SM, L1CSM, etc.
 - TE – TE Tunnel, ACTN VN
- This TE-service mapping model is needed to bind L3VPN, L2VPN specific service model with TE-specific parameters.
- This binding will facilitate a seamless service operation with underlay-TE network visibility.



Updates since the last version.

- The scope of this document is limited to a set of domains under the same network operator to deliver services requiring TE tunnels.
- Added L1CSM mapping to TE.
- Expanded the Mode of Operation (next page)

Mode of Operations (Updated)

New VN/Tunnel Binding VN/Tunnel Selection

- Customer could request an L3VPN service [L3SM-YANG] with a new VN/Tunnel not shared with other existing services.
- This is to meet VPN isolation requirement.
- Note that this could be done dynamically.

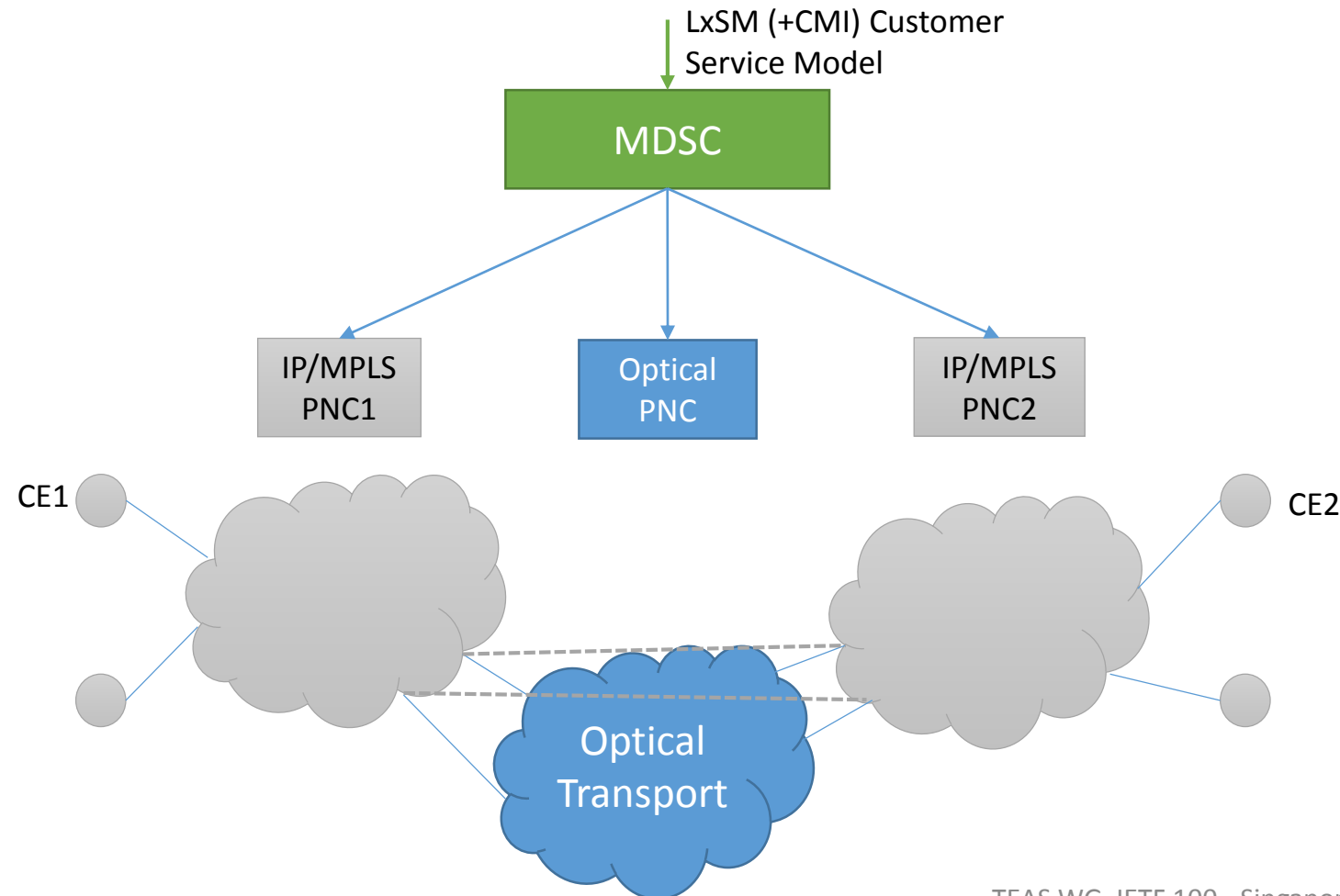
- Customer could request an L3VPN service [L3SM-Yang], new tunnels (or VN) are not created for each VPN. Thus, the tunnels can be shared across multiple VPN.
- Further the mapping yang model described in Section 5 of this document is used to get the mapping between the L3VPN and the tunnels in use.
- No modification is allowed when an existing tunnel is selected.

VN/Tunnel Modify

- This mode allows the modification of the properties of the existing VN/tunnel (e.g., bandwidth) when VN/Tunnel Selection Mode is applied.

Other modes of operation can be added once identified.

Sample Flow



1. Create a VPN between CE1, CE2
 - with a new VN/TE-tunnel creation and binding
2. MDSC creates a new VN dynamically
3. MDSC coordinates with IP/MPLS and Transport PNC/s to:
 - Create E2E PE-PE tunnels over the underlay transport
4. MDSC needs to pass VPN information to the IP/MPLS PNC
5. IP/MPLS PNC creates VR/VS instances on PE's
 - Tunnel binding between VPN and TE-tunnel

Yang Model

- Service Mapping
 - L3SM, L2SM, L1CSM
 - ACTN VN or Tunnel List
- Site Mapping
 - VPN Site
 - ACTN AP or TE Endpoints

```
module: ietf-te-service-mapping
  +--rw te-service-mapping
    +--rw service-mapping
      | +--rw mapping-list* [map-id]
      |   +--rw map-id                uint32
      |   +--rw map-type?             map-type
      |   +--rw (service)?
      |   | +--:(l3vpn)
      |   | | +--rw l3vpn-ref?        -> /l3:l3vpn-svc/vpn-services/vpn-
      |   | | service/vpn-id
      |   | | +--:(l2vpn)
      |   | | | +--rw l2vpn-ref?      -> /l2:l2vpn-svc/vpn-services/vpn-
      |   | | | svc/vpn-id
      |   | | +--:(l1vpn)
      |   | | | +--rw l1vpn-ref?      -> /l1:l1cs/service/service-
      |   | | | list/subscriber-l1vc-id
      |   | | | +--rw (te)?
      |   | | | +--:(actn-vn)
      |   | | | | +--rw actn-vn-ref?  -> /vn:actn/vn/vn-list/vn-id
      |   | | | | +--:(te)
      |   | | | | +--rw te-tunnel-list*  te:tunnel-ref
      |   +--rw site-mapping
      |     +--rw mapping-list* [map-id]
      |     +--rw map-id                uint32
      |     +--rw (service)?
      |     | +--:(l3vpn)
      |     | | +--rw l3vpn-ref?        -> /l3:l3vpn-svc/sites/site/site-id
      |     | | +--:(l2vpn)
      |     | | | +--rw l2vpn-ref?      -> /l2:l2vpn-svc/sites/site/site-id
      |     | | | +--:(l1vpn)
      |     | | | +--rw l1vpn-ref?      -> /l1:l1cs/access/uni-list/UNI-ID
      |     +--rw (te)?
      |     | +--:(actn-vn)
      |     | | +--rw actn-vn-ref?      -> /vn:actn/ap/access-point-list/access-
      |     | | point-id
      |     | +--:(te)
```

Next Step

- The authors believe that this draft is a good base for WG adoption.

