

Traffic Engineering and Service Mapping Yang Model

draft-lee-teas-te-service-mapping-yang-09

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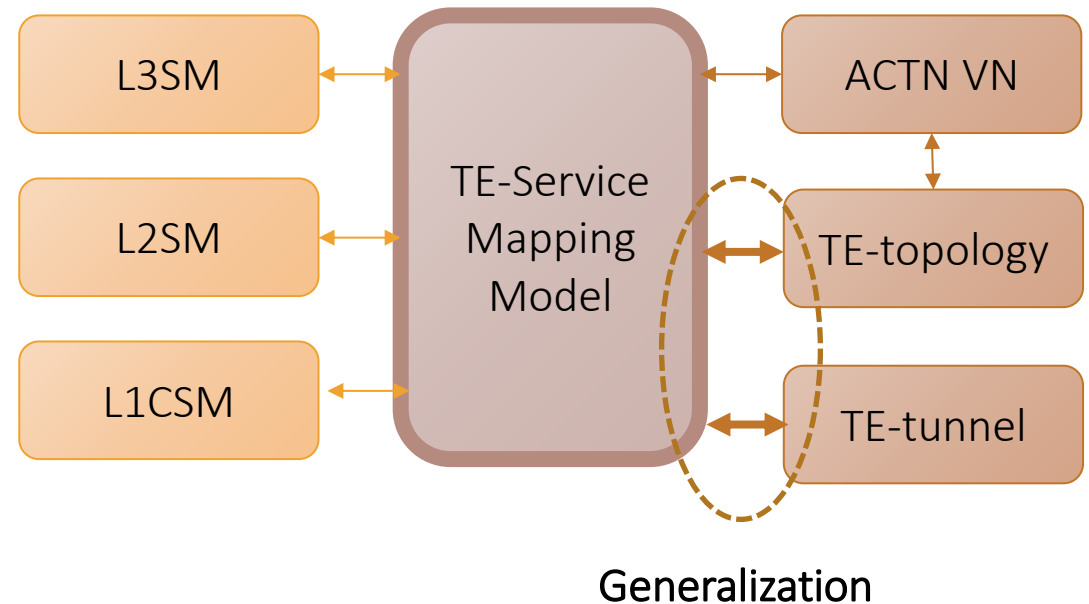
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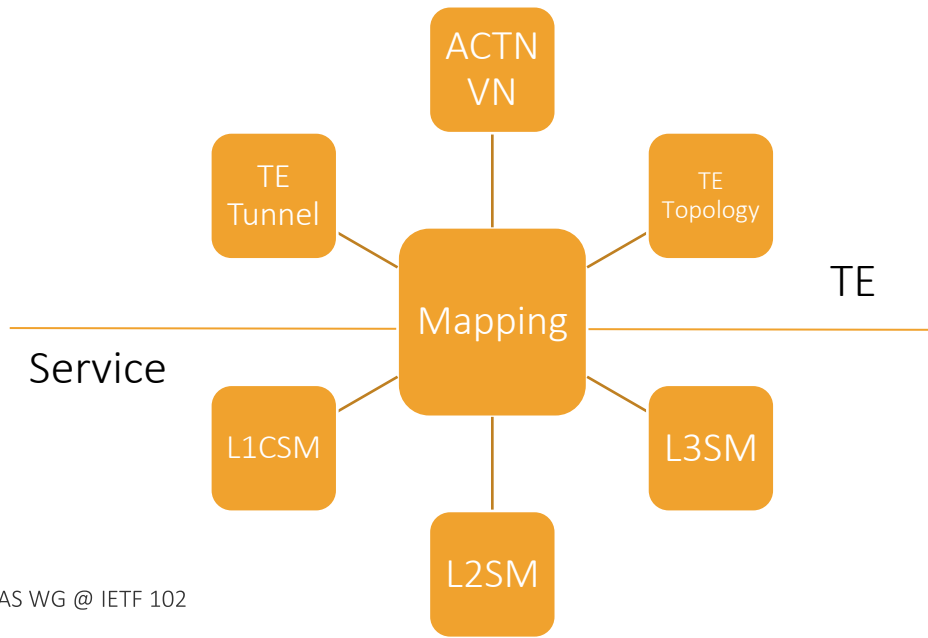
TE-Service Mapping Model Update (1)

- The role of TE-service Mapping model is to create a mapping relationship between -
 - Services – L3SM, L2SM, L1CSM, etc.
 - TE topo, TE tunnel model and the ACTN VN Model
 - **Update:** Generalized it by making the model to have direct mapping to TE-topo and TE-tunnel as well!
- This TE-service mapping model is needed to bind L3VPN, L2VPN, L1CSM specific service model with underlying TE-specific parameters.
- This binding will facilitate a seamless service operation with underlay-TE network visibility and control.



Issues discussed since IETF 101

- An independent yang model for TE & Service Mapping v/s an augmentation of service yang model
 - Single mapping model to map any service to various levels in TE (VN/Topo/Tunnel)
 - Multiple models for each type of service – augmentation of L1/2/3 SM models.
- This was discussed on the mailing list, discussions in favor of one TE & Service Mapping model that applied to all L1/2/3 SM models.



L3SM

TE Mapping

- ACTN VN
- TE Topology
- TE Tunnel

L2SM

TE Mapping

- ACTN VN
- TE Topology
- TE Tunnel

L1CSM

TE Mapping

- ACTN VN
- TE Topology
- TE Tunnel

TE-Service Mapping Model Update (2)

Reorganized Map Type (for VN/Tunnel selection policy)

New VN/Tunnel Binding

- Customer could request a VPN service with a new VN/Tunnel not shared with other existing services.
 - **Hard Isolation with deterministic characteristics**
 - **Hard Isolation**
 - **Soft Isolation**

VN/Tunnel Sharing

- Customer could request a VPN where the tunnels can be shared with other existing VPNs.

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.

TE-Service Mapping Model Update (3)

- Introduced “Availability” for customer to indicate the level of availability.
 - 99.9999 %
 - 99.999 %
 - 99.99 %
 - 99.9 %
 - 99 %
- This needs to be translated into network level policies - protection/reroute policies associated with VN/Tunnels.

Yang Model

```
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?   -> /13:l3vpn-svc/vpn-services/vpn-service/vpn-id
          +--:(l2vpn)
            | +--rw l2vpn-ref?   -> /12:l2vpn-svc/vpn-services/vpn-service/vpn-id
          +--:(l1vpn)
            | +--rw l1vpn-ref?   -> /11:l1cs/service/service-list/subscriber-l1vc-id
        +--rw (te)?
          +--:(actn-vn)
            | +--rw actn-vn-ref? -> /vn:actn/vn/vn-list/vn-id
          +--:(te-topo)
            | +--rw vn-topology-id? te-types:te-topology-id
            | +--rw abstract-node?  -> /nw:networks/network/node/node-id
          +--:(te-tunnel)
            +--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?   -> /13:l3vpn-svc/sites/site/site-id
            +--:(l2vpn)
              | +--rw l2vpn-ref?   -> /12:l2vpn-svc/sites/site/site-id
            +--:(l1vpn)
              | +--rw l1vpn-ref?   -> /11:l1cs/access/uni-list/UNI-ID
          +--rw (te)?
            +--:(actn-vn)
              | +--rw actn-vn-ref? -> /vn:actn/ap/access-point-list/access-point-id
            +--:(te)
              +--rw ltp?          te-types:te-tp-id
```

Next Step

- This is quite a useful feature
- The authors believe that this draft is a good base for WG adoption.

