Traffic Engineering and Service Mapping Yang Model

draft-lee-teas-te-service-mapping-yang-12

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TEAS WG @ IETF 103
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.
• The resolution was to augment LxSM models; the merit of this resolution is to re-use existing models.
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

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.
### Reorganized Map Type (for VN/Tunnel selection policy)

<table>
<thead>
<tr>
<th>New VN/Tunnel Binding</th>
<th>VN/Tunnel Sharing</th>
<th>VN/Tunnel Modify</th>
</tr>
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</table>
| • 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** | • Customer could request a VPN where the tunnels can be shared with other existing VPNs. | • This mode allows the modification of the properties of the existing VN/tunnel (e.g., bandwidth) when VN/Tunnel Selection Mode is applied. |
• 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: ietf-l2sm-te-service-mapping

module: ietf-l2sm-te-service-mapping
  augment /l2vpn-svc:l2vpn-svc/l2vpn-svc:vpn-services/l2vpn-svc:vpn-service:
    +-rw te-service-mapping
  augment /l2vpn-svc:l2vpn-svc/l2vpn-svc:vpn-services/l2vpn-svc:vpn-service:
    +-rw te-mapping
      +-rw map-type? identityref
      +-rw availability-type? identityref
      +-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
  augment /l2vpn-svc:l2vpn-svc/l2vpn-svc:sites/l2vpn-svc:site/l2vpn-svc:site-network-accesses/l2vpn-svc:site-network-access:
    +-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
module: ietf-l1csm-te-service-mapping
  augment /l1:li-connectivity/li:services/l1:service:
    +rw te-service-mapping!
  augment /l1:li-connectivity/li:services/l1:service:
    +rw te-mapping
      +rw map-type? identityref
      +rw availability-type? identityref
    +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
  augment /l1:li-connectivity/li:services/l1:service/l1:endpoint-1:
    +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
  augment /l1:li-connectivity/li:services/l1:service/l1:endpoint-2:
    +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

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