A Yang Data Model for ACTN VN Operation

draft-lee-teas-actn-vn-yang-01.txt

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ACTN Architectural Context:

- Customer Network Controller (CNC)
- Multi-domain Service Coordinator (MDSC)
- Physical Network Controller (PNC)
- CMI
- MPI
- SBI

This draft fulfills Requirements 4-6 from ACTN Requirement draft:

- VN Instantiate
- VN Dynamic Control
- VN Lifecycle M&O
There are various definitions of what Virtual Network means. Here, we are focusing on customer’s network slicing of TE network resources.

1. A VN may comprise a set of end-to-end tunnels from a customer point of view that connects customer endpoints (i.e., source CE and destination CE).

2. A VN may comprise of a number of virtual nodes and virtual links (more than a tunnel).
VN Relationship

VN

 VN Member 1
     E2E TE-Tunnel 1
       LSP

 VN Member 2
     E2E TE-Tunnel 2
       LSP

 VN Member N
     E2E TE-Tunnel N
       LSP

CNC View

MDSC View

PNC View
VN Instantiate

1. VN Instantiate

2. VN Instantiate

5. VN Instantiate Response

6. VN Instantiate Response

CNC

MDSC

PNC

Domain 1

Domain 2

Domain 3

Member 1

Member 2

Member 3

VN “Berlin”

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# VN Access Point (AP)

### Customer View

<table>
<thead>
<tr>
<th>AP id</th>
<th>MaxResBw</th>
<th>AvailableBw</th>
<th>CE,port</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP1</td>
<td>10Gb</td>
<td>10Gb</td>
<td>CE1,portX</td>
</tr>
<tr>
<td>AP2</td>
<td>40Gb</td>
<td>40Gb</td>
<td>CE2,portZ</td>
</tr>
</tbody>
</table>

### Provider View

<table>
<thead>
<tr>
<th>AP id</th>
<th>MaxResBw</th>
<th>AvailableBw</th>
<th>PE,port</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP1</td>
<td>10Gb</td>
<td>10Gb</td>
<td>PE1,portW</td>
</tr>
<tr>
<td>AP2</td>
<td>40Gb</td>
<td>40Gb</td>
<td>PE2,portY</td>
</tr>
</tbody>
</table>
Next Steps

• This draft is focused on the VN YANG model to provide VN Type of “e2e tunnel” between customer end points.
  – A more complex VN type can be presented in next version

• Refine YANG models
  – Align with FW/Info Model
  – More work on Access Point Characteristics

• Evaluate any missing items