

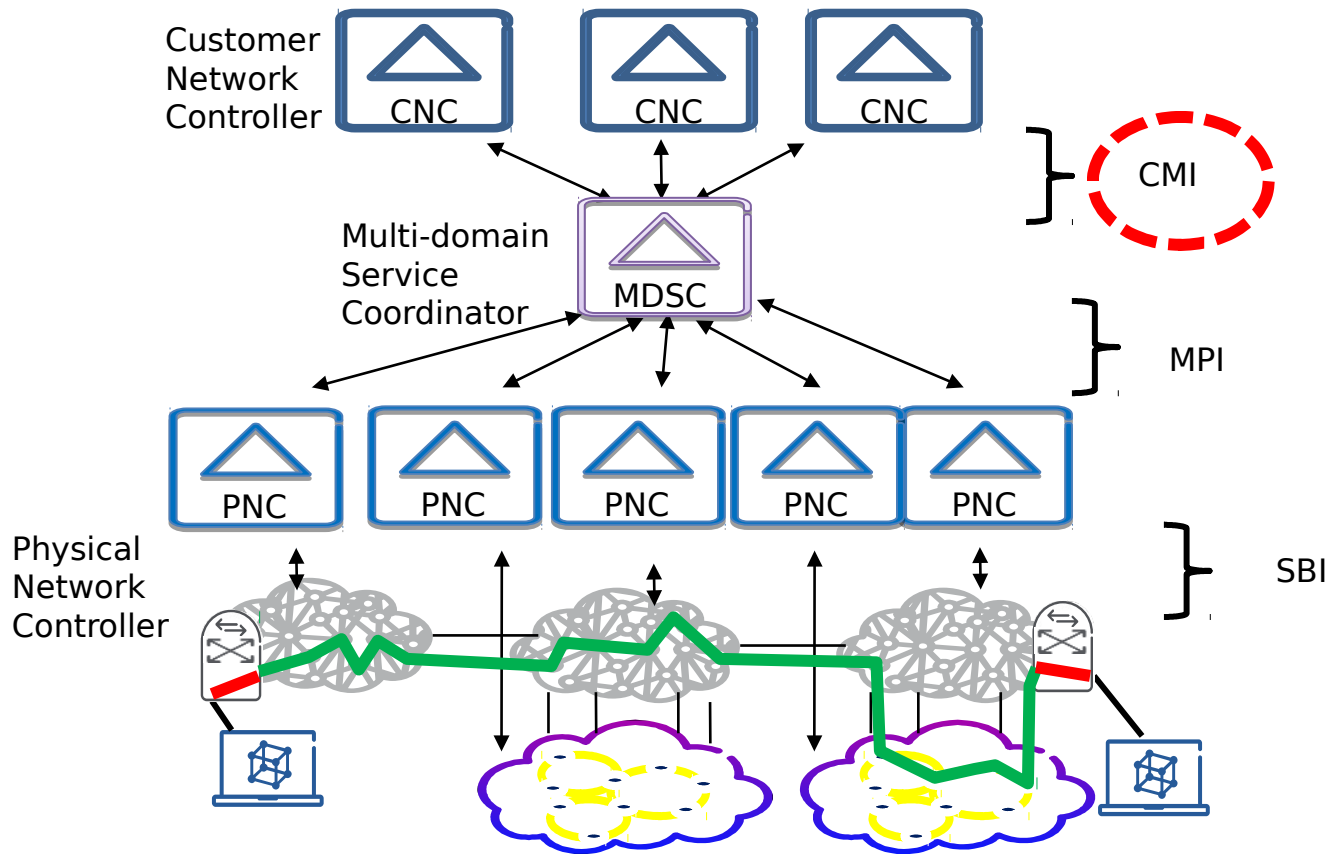
A Yang Data Model for ACTN VN Operation

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

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ACTN Architectural Context:



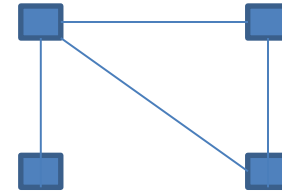
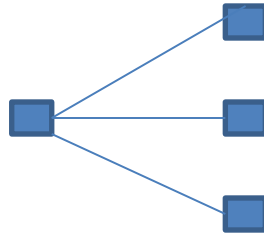
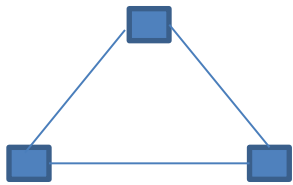
This draft fulfills Requirements 4-6 from ACTN Requirement draft

- VN Instantiate
- VN Dynamic Control
- VN Lifecycle M&O

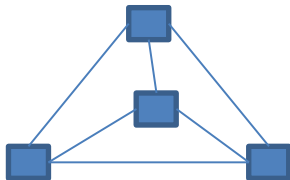
VN

There are various definitions of what Virtual Network means. Here, we are focusing on customer's network slicing of TE network resources.

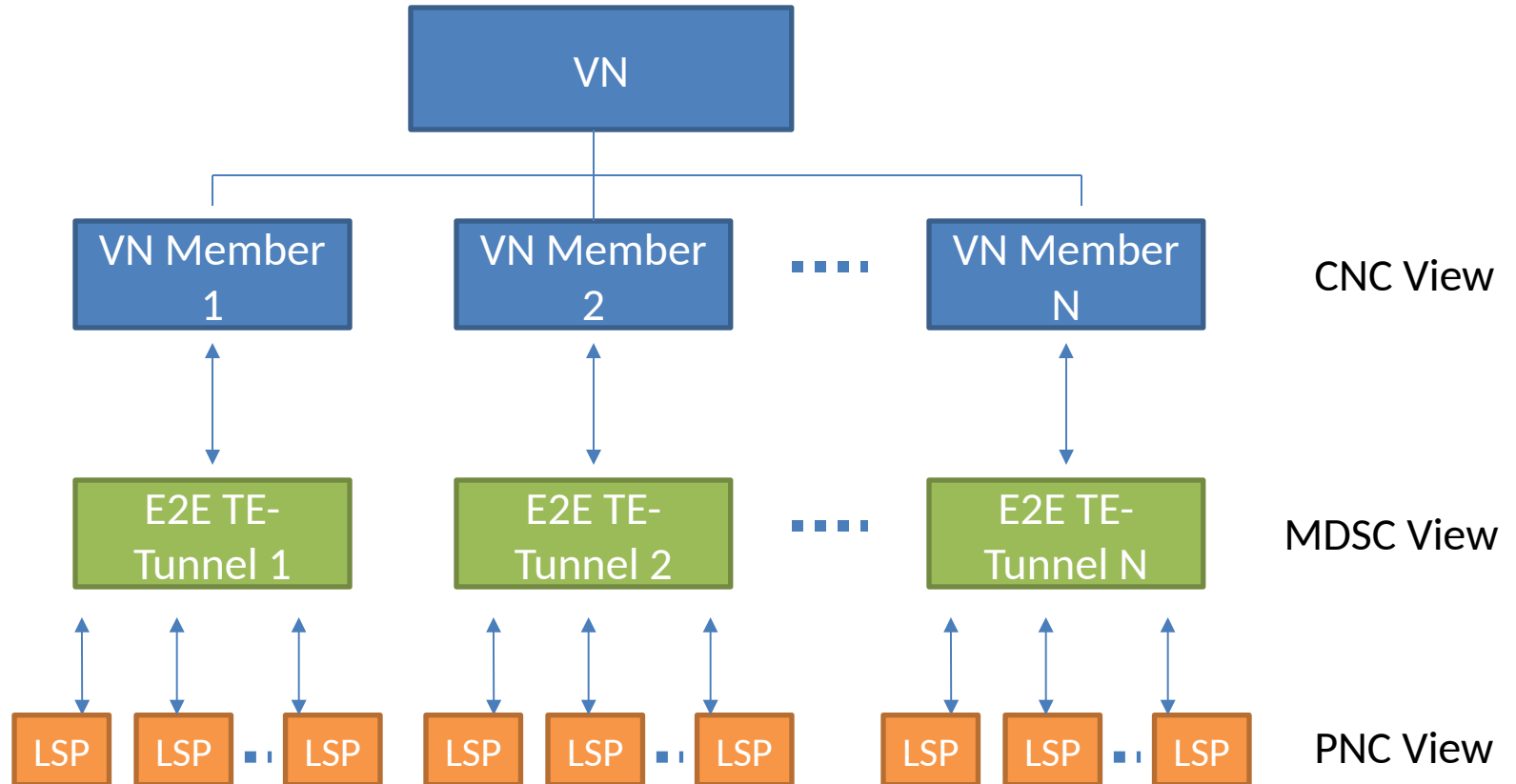
1. A VN may comprise a set of end-to-end tunnels from a customer point of view that connects customer endpoints (i.e., source CE and destination CE).



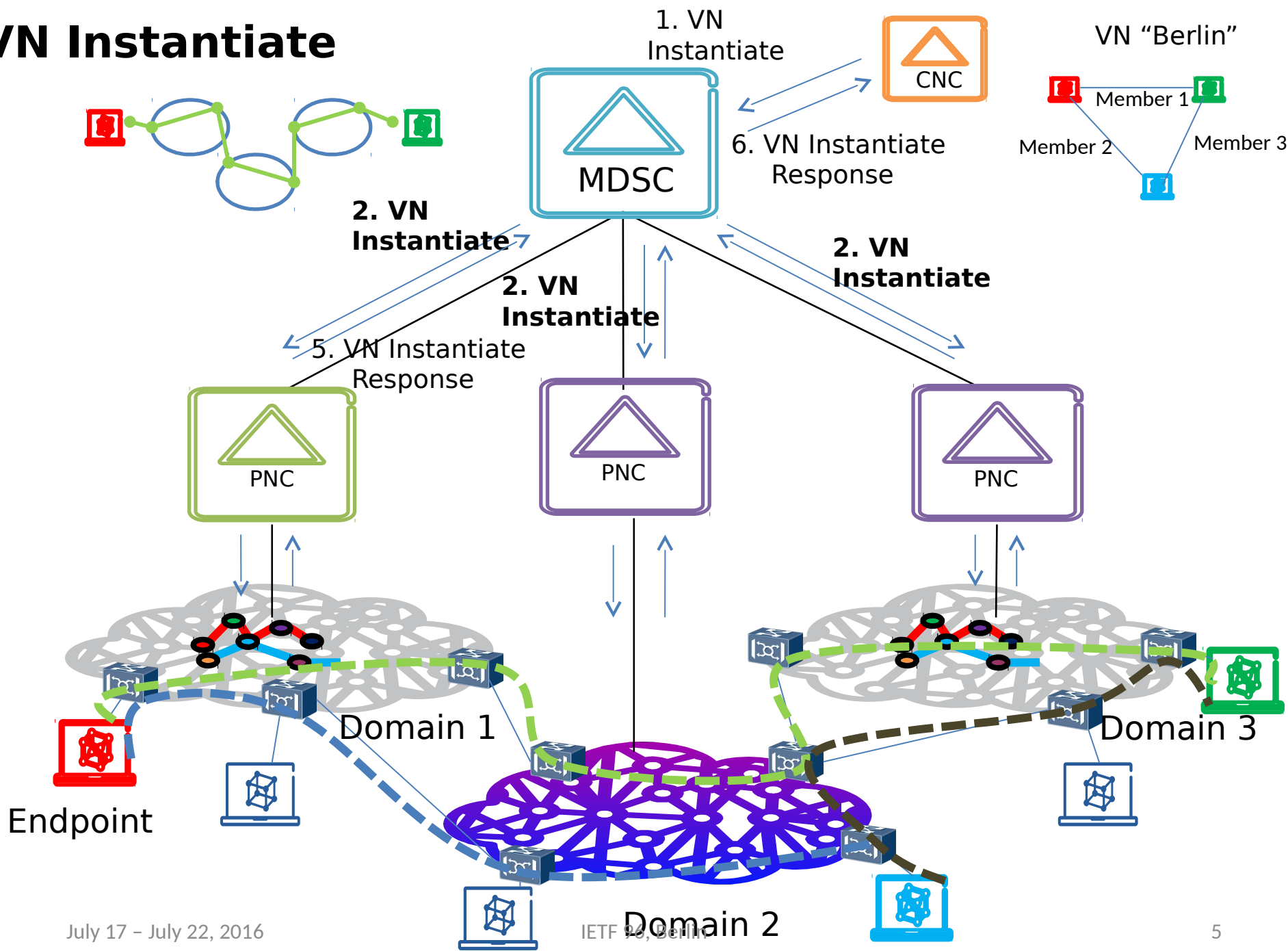
2. A VN may comprise of a number of virtual nodes and virtual links (more than a tunnel).



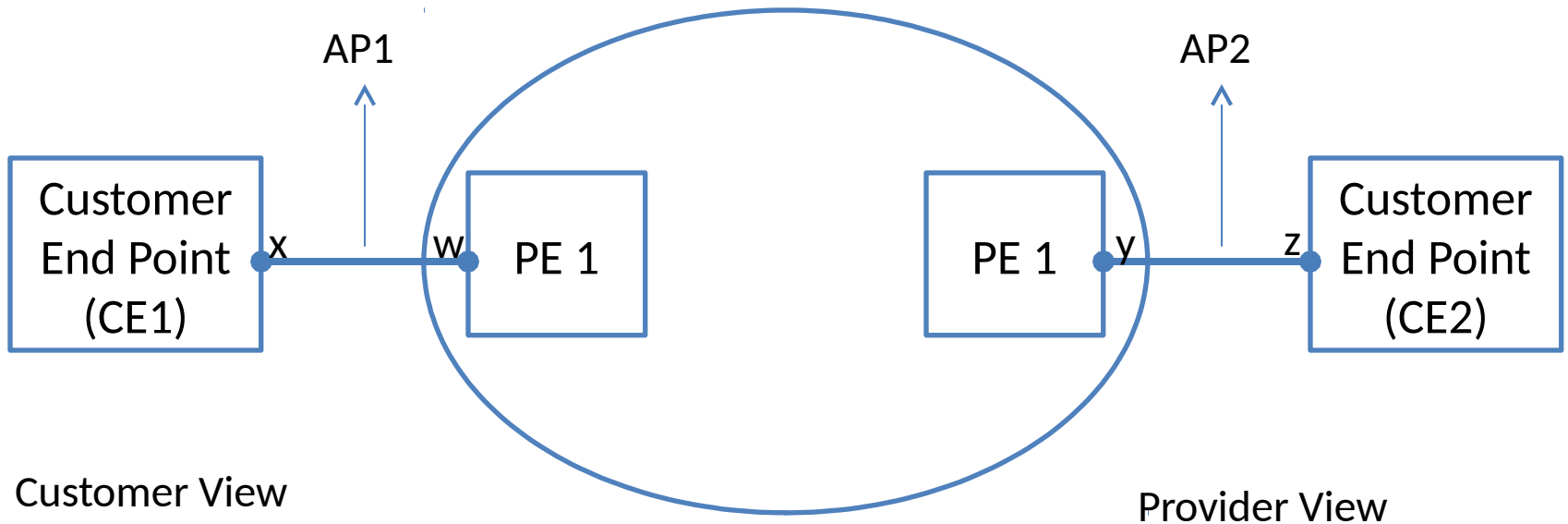
VN Relationship



VN Instantiate



VN Access Point (AP)



AP id	MaxResBw	AvailableBw	CE, port
AP1	10Gb	10Gb	CE1, portX
AP2	40Gb	40Gb	CE2, portZ

AP id	MaxResBw	AvailableBw	PE, port
AP1	10Gb	10Gb	PE1, portW
AP2	40Gb	40Gb	PE2, portY

VN YANG Tree

```
module: ietf-actn-vn
```

```
  +-rw actn
```

```
    | +-rw ap
```

```
      | | +-rw access-point-list* [access-point-id]
```

```
        | | +-rw access-point-id uint32
```

```
        | | +-rw access-point-name? string
```

```
        | | +-rw max-bandwidth? decimal64
```

```
        | | +-rw avl-bandwidth? decimal64
```

```
    | +-rw vn
```

```
      | +-rw vn-list* [vn-id]
```

```
        | +-rw vn-id uint32
```

```
        | +-rw vn-name? string
```

```
        | +-rw vn-member-list* [vn-member-id]
```

```
          | | +-rw vn-member-id uint32
```

```
            | | +-rw src? leafref
```

```
            | | +-rw src-vn-ap-id? uint32
```

```
            | | +-rw dest? leafref
```

```
            | | +-rw dest-vn-ap-id? uint32
```

```
            | | +-rw delay? uint32
```

```
            | | +-rw delay-variation? uint32
```

```
            | | +-rw packet-loss? decimal64
```

```
            | | +-rw bandwidth? decimal64
```

```
            | | +-rw protection? identityref
```

```
            | | +-rw local-reroute? boolean
```

```
            | | +-rw push-allowed? boolean
```

```
            | | +-rw incremental-update? boolean
```

```
            | | +-rw admin-status? identityref
```

```
    +-ro actn-state
```

Access Point
Definition

VN Definition

VN Member
Association with
Access Points

VN Service
Characteristics

VN Service
Policy/Preference

```
  +-ro actn-state
```

```
    +-ro ap
```

```
      | +-ro access-point-list* [access-point-id]
```

```
        | +-ro access-point-id uint32
```

```
        | +-ro access-point-name? string
```

```
        | +-ro max-bandwidth? decimal64
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```
        | +-ro avl-bandwidth? decimal64
```

```
    +-ro vn
```

```
      +-ro vn-list* [vn-id]
```

```
        +-ro vn-id uint32
```

```
        +-ro vn-name? string
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```
        +-ro vn-member-list* [vn-member-id]
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            | +-ro src? leafref
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            | +-ro src-vn-ap-id? uint32
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```
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```

```
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```

```
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```

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            +-ro delay? uint32
```

```
            +-ro delay-variation? uint32
```

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            +-ro bandwidth? decimal64
```

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            +-ro protection? identityref
```

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            +-ro local-reroute? boolean
```

```
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```

```
            +-ro incremental-update? boolean
```

```
            +-ro admin-status? identityref
```

VN Member
Performance
Data

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