Requirements of Composed VPN Service Model

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Motivation

However, it’s not enough for operators to deploy the VPN services

- Optimize the VPN deployment of the customer’s requests based on the exiting networking.
  - Deploy the L3VPN request from the customer to multiple VPN segments (IPRAN, PTN, IPCore) in the end to end environment.
- Add it’s own operation requirements,
  - e.g. operation visualization, monitoring, diagnosis
- Manage various policies for different customers.
- ...

Operators need a simplified interface to reduce the operation and management, to ease VPN service deployment in the End to End network.

e.g. L3SM model captures the requirements from customers
Use Cases

• **Multi-AS VPN Service**: Customer sites are located in different autonomous systems (AS). ISP need to deploy the VPN service across multiple ASes.

• **Composed L2 and L3 VPN Service**: Although the customer may request either layer 2 or layer 3 VPN service, the network infrastructure among customer sites may require different VPN service in the corresponding AS. So, an end to end VPN service within the ISP domain may be a composition of multiple segmental layer 2 and layer 3 VPN services.

• **Dynamic Site Insertion**: The customer site that is not in the previously provisioned VPN can be quickly included.
Example 1

- Enterprise connects to the data center
Example 2

- Geographically distributed sites inter-connection
Modeling

**AP**: access point that are used to connect to the peered device or AS
**Segment VPN**: The VPN service deployed for one AS
**Composed VPN**: The VPN service deployed across one or more segments.
Data Model Design

overall description for this composed VPN service

a list of APs that are used to connect to the peered customer sites

Describe how the segment VPN looks like and how it can communicate with peered devices outside this segment VPN.
Thank You and Comments