Requirements of Composed VPN Service Model

draft-deng-opsawg-composed-vpn-sm-requirements-01

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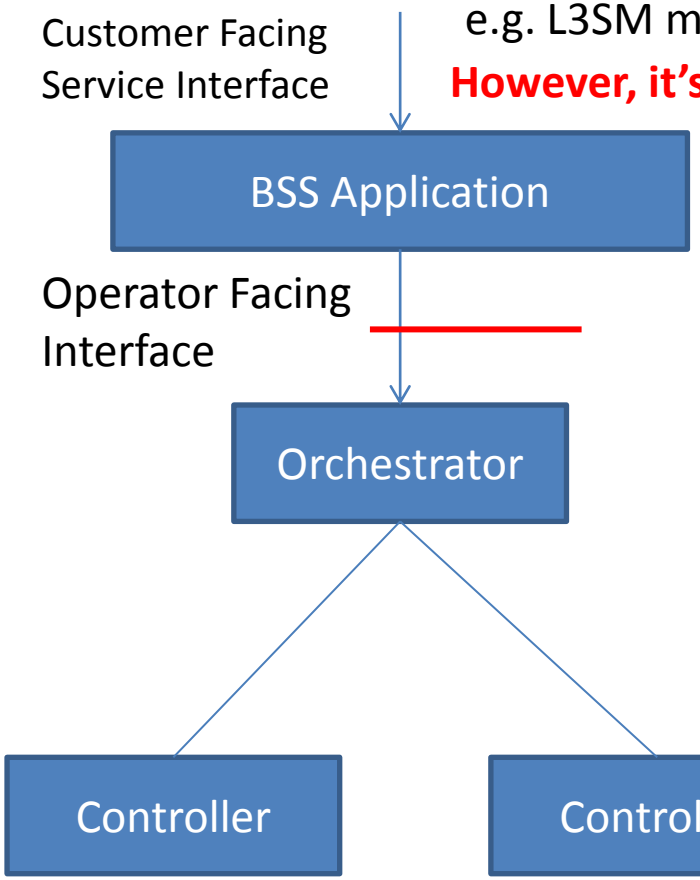
Motivation

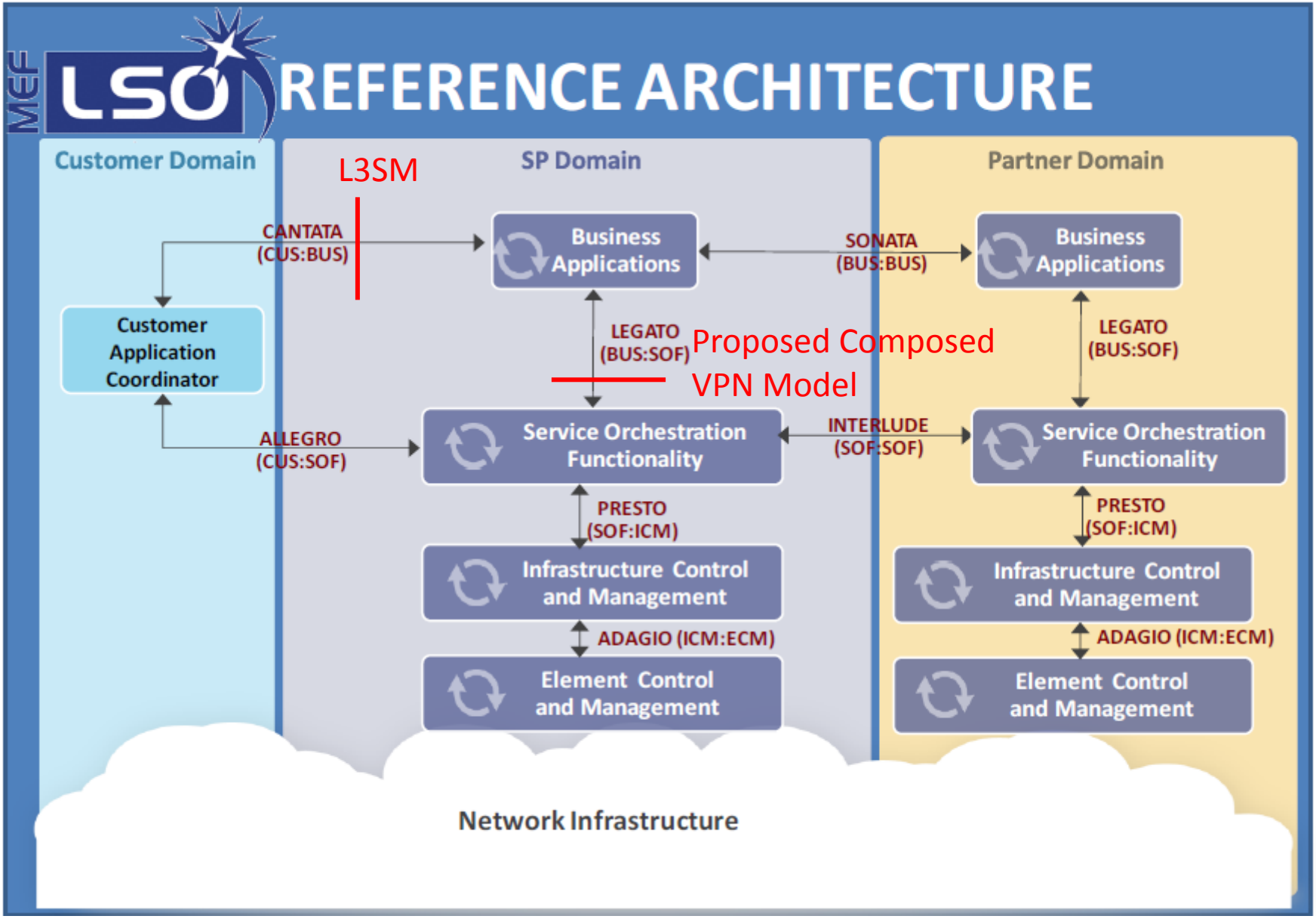


e.g. L3SM model captures the requirements from customers

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.


MEF
LSO
REFERENCE ARCHITECTURE
Customer Domain
L3SM
SP Domain
Partner Domain
CANTATA (CUS:BUS)
Business Applications
SONATA (BUS:BUS)
Business Applications
Customer Application Coordinator
LEGATO (BUS:SOF)
Proposed Composed VPN Model
LEGATO (BUS:SOF)
ALLEGRO (CUS:SOF)
Service Orchestration Functionality
INTERLUDE (SOF:SOF)
Service Orchestration Functionality
PRESTO (SOF:ICM)
PRESTO (SOF:ICM)
Infrastructure Control and Management
Infrastructure Control and Management
ADAGIO (ICM:ECM)
ADAGIO (ICM:ECM)
Element Control and Management
Element Control and Management
Network Infrastructure

Use Cases

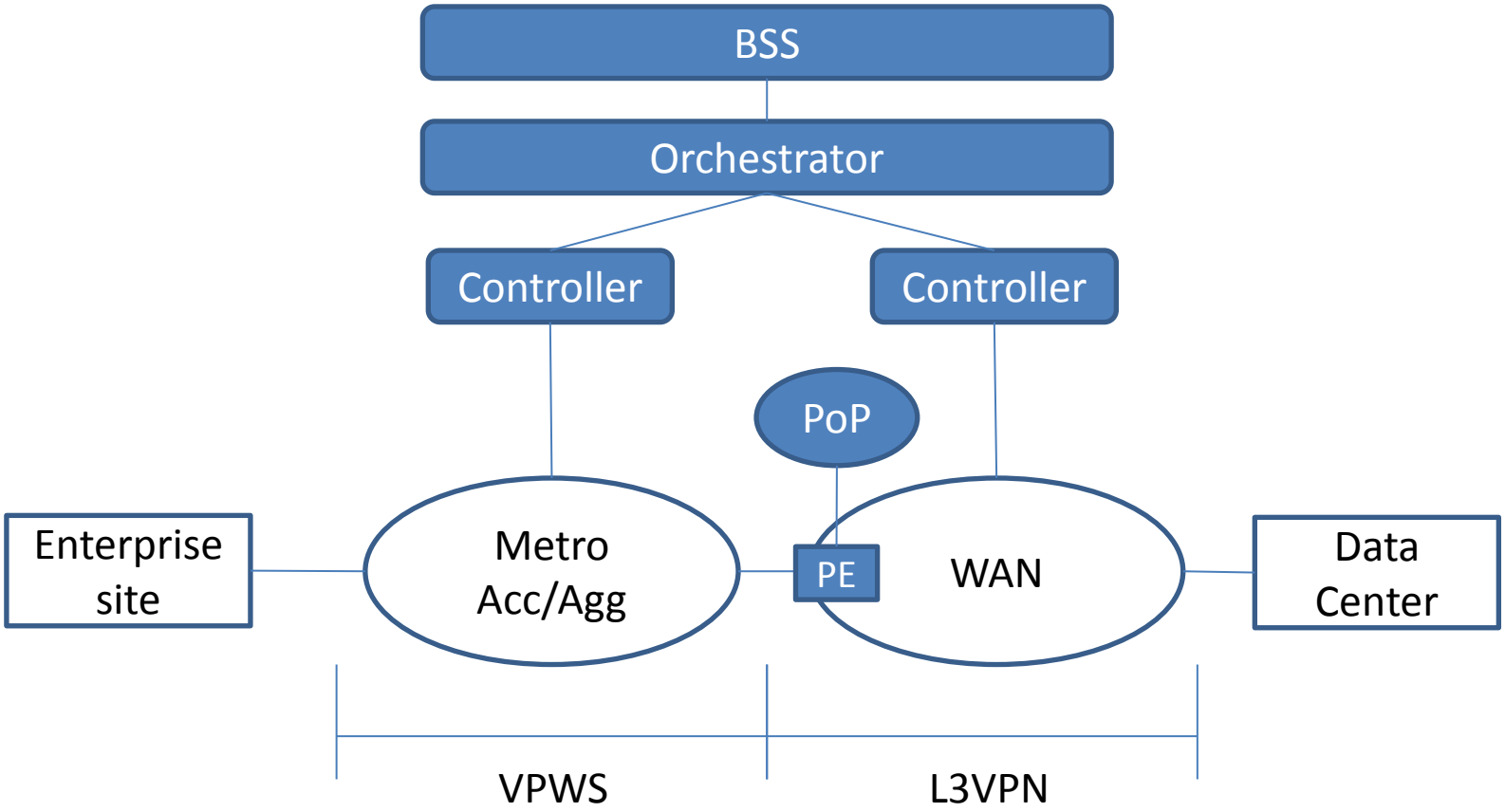
- **Multi-AS VPN Service**: Customer sites are located in different autonomous systems(AS). ISP need to deploy the VPN service across multiple ASes.

- **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.

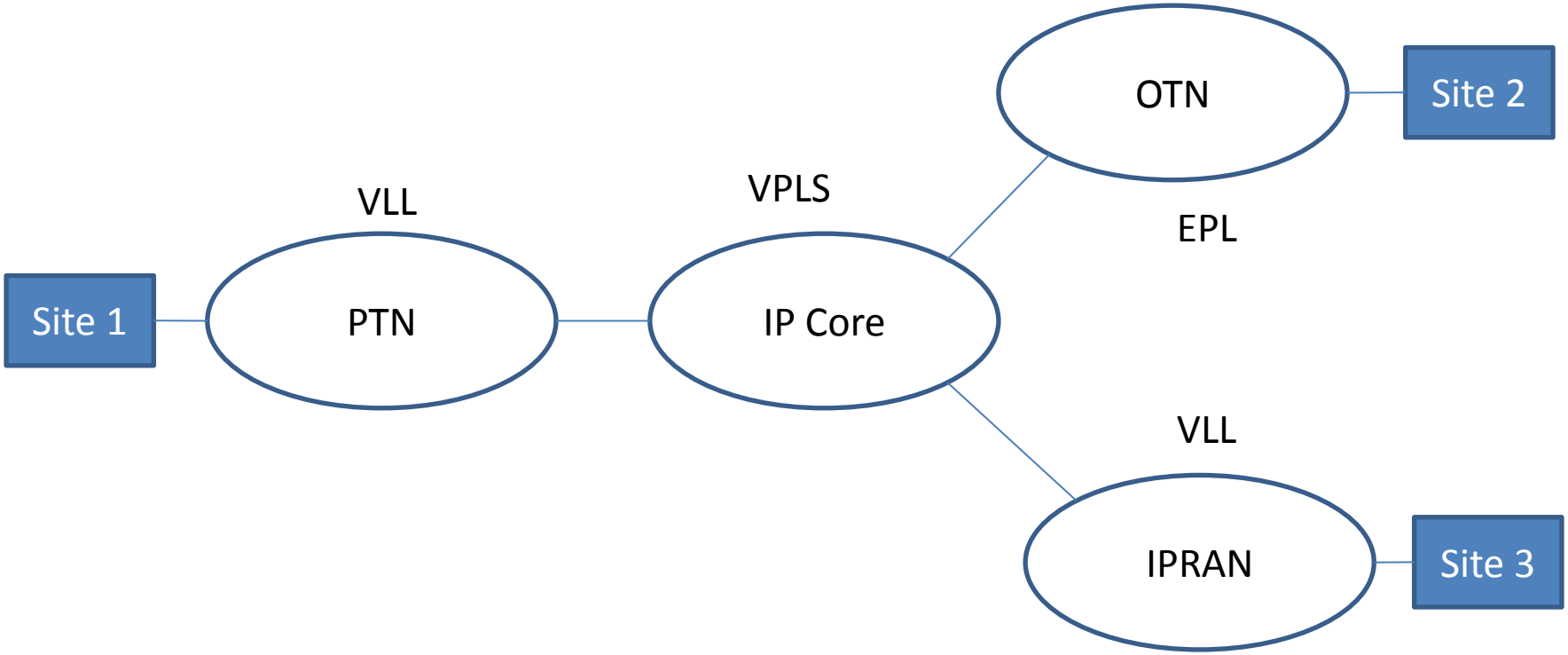
Example 1

- Enterprise connects to the data center

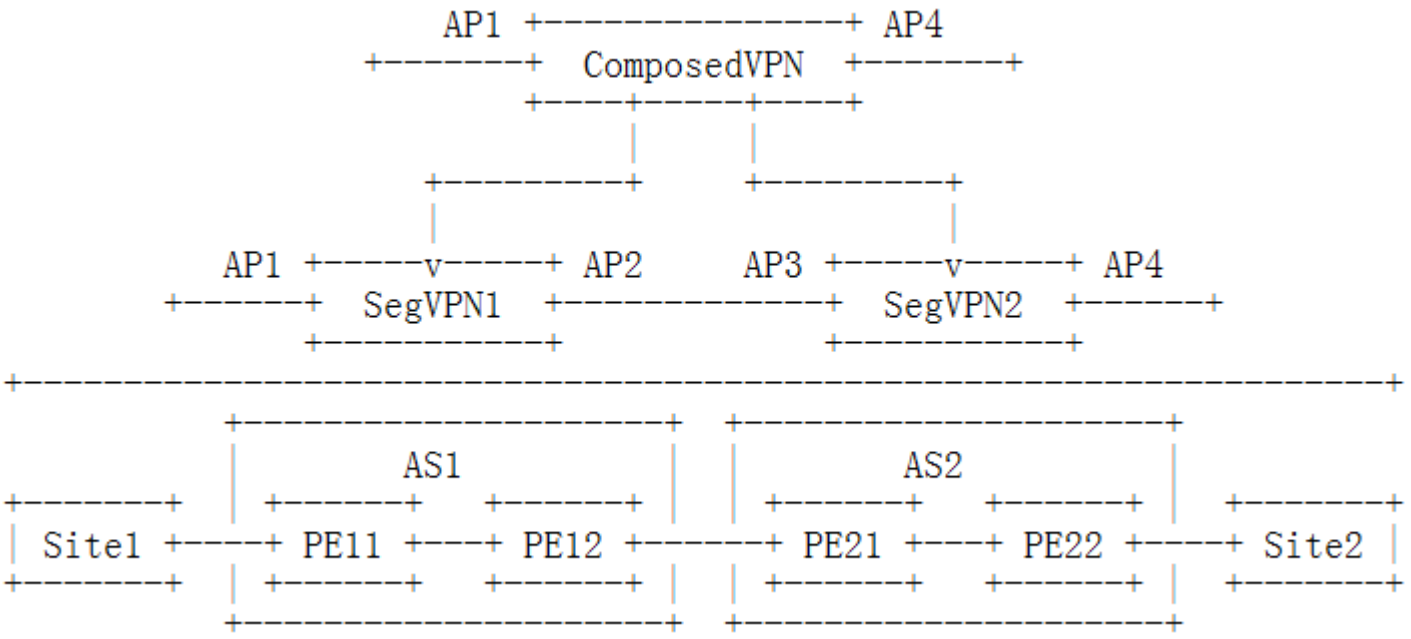


Example 2

- Geographically distributed sites inter-connection

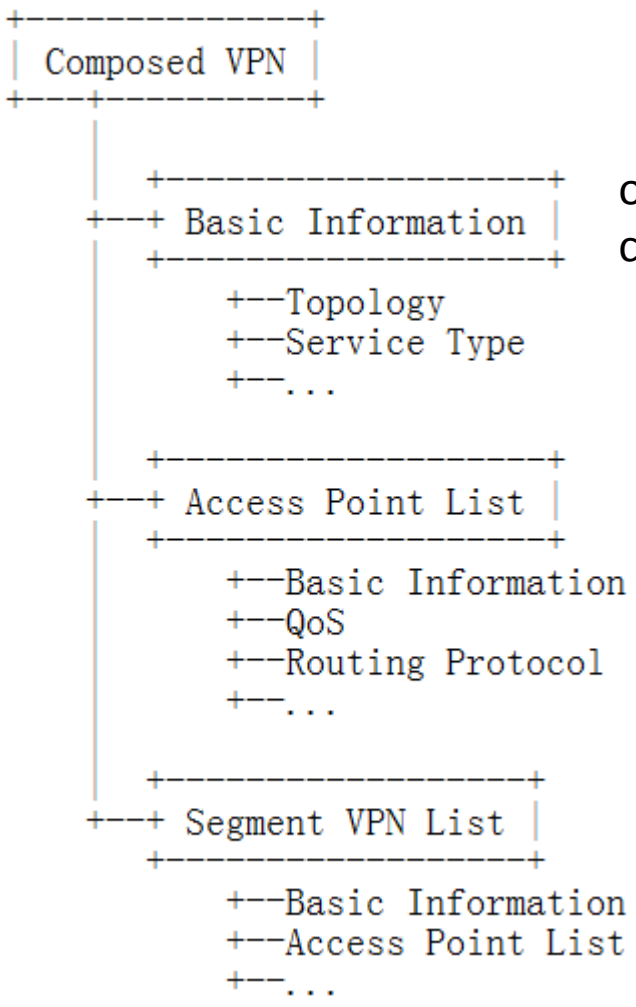


Modeling



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