

draft-ietf-l3sm-l3vpn-service-model  
L3SM Interim meeting 12032015

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# Issue#1 : when customer-nat-address is used

- Answer provided on the list
- Leaf used when NAT is required to access cloud VPN and customer wants to use its own IP address. If provider provides the public IP, no need to use the leaf
- Status : CLOSED

# Issue#2 : Identify l3vpn svc using id or name or both

- Name removed
- ID is a string
- Similar way used as other properties
  
- Status : CLOSED

# Issue#3 : M to N availability support

- Currently only primary/backup and loadsharing supported
- Today no indicator of relations between sites
- Proposal made to the list :
  - Modeling site as really a site and no more to an access

# Issue#3 : M to N availability support

```
+--rw sites* [site-id]
  | +--rw site-id          string
  | +--rw apply-template?  leafref
  | +--rw requested-site-start? yang:date-and-time
  | +--rw requested-site-stop? yang:date-and-time
  | +--rw actual-site-start?  yang:date-and-time
  | +--rw actual-site-stop?   yang:date-and-time
  | +--rw location
  | +--rw site-diversity
  | +--rw management
  | +--rw vpn-policy
  | +--rw maximum-routes
  | +--rw security
  | +--rw routing-information
  | +--rw service
  | +--rw site-network-access* [access-id]
  | | +--rw access-id      string
  | | +--rw apply-template? leafref
  | | +--rw bearer
  | | | +--rw type?       string
  | | | +--rw bearer-reference? string
  | | +--rw access-bw
  | | | +--rw svc-input-bandwidth? uint32
  | | | +--rw svc-output-bandwidth? uint32
  | | +--rw availability
  | |   +--rw access-priority  uint32
  | | +--rw ip-connection
```

# Issue#3 : M to N availability support

- Site diversity so only applies to sites (no more access)
- Access diversity for a particular multihomed sites would be addressed by a « an implementation MAY apply an automated access diversity »
- Availability is encoded as an access-priority : propose to use a range « 1..3 » only to ease implementations
- Need to check what containers need to go under access

# Issue#4 : site-service-cloudaccess as grouping

- Taken into account, grouping created
- Status : CLOSED

# Issue#5 : Multicast support

- Eric R. pointed issues on multicast VPN modeling :
  - Need to handle multiple group to RP mappings
  - Handling RP service provided by SP
  - Offer IGMP/MLD and PIM as service

# Issue#5 : Multicast support

- New proposal

```
+---rw l3vpn-svc
  +---rw vpn-svc* [name]
    +---rw multicast
      +---rw tree-flavor*      identity-ref
      +---rw rp
        +---rw rp-group-mapping [rp-address group]
          +---rw rp-address      union
          +---rw provider-managed
            +---rw enabled?      boolean
            +---rw anycast-rp?  boolean
          +---rw group           union
        +---rw rp-discovery?    identity-ref
  +---rw sites* [site-id]
    +---rw service
      +---rw multicast
        +---rw multicast-site-type?  enumeration
        +---rw multicast-transport-protocol
          +---rw ipv4?  boolean
          +---rw ipv6?  Boolean
        +---rw protocol-type?          enumeration
```

Host/Router/Both



# Issue#6 : inventory ops state

- Do we need to add inventory in the model (e.g. list of sites within a VPN) ?
- There is an interest for such inventory

# Issue#7 : Generic VAS

- Issue : do we need to create a generic VAS container as VAS are popular in L3VPNs
- Consensus :
  - Generic VAS need to be separated from L3VPN service model
- Status : closed

# Issue#8 : who keep site location information

- Issue : « In Prague meeting, the network orchestrator handling Site Location was discussed, one question is about whether the network orchestrator should keep the Site location information?»
- Consensus :
  - Text has been fixed for site diversity with a SHOULD instead of MUST
- Status : CLOSED

# Issue#9 : do we need to model transport constraints ?

- Issue : how to model traffic engineering constraints between sites ?
- Looks that there is an interest to do it
- Two proposals sent

# Issue#9 : do we need to model transport constraints ?

- Proposal#1 : model in VPN

```
rw vpn-svc
  +--rw transport-constraint
    +--rw list [id]
      +--rw id uint32
      +--rw src-site leafref
      +--rw dst-site leafref
      +--rw constraint-type identityref
      +--rw constraint-value ???
```

# Issue#9 : do we need to model transport constraints ?

- Proposal#2 : model in sites

```
rw sites
  +--rw services
    +--rw transport-constraint
      +--rw dst-site-list [dst-site]
        +--rw dst-site leafref
          +--rw constraint-type identityref
            +--rw constraint-value ???
```

# Issue#9 : do we need to model transport constraints ?

- Discussions :
  - Looks that transport relationship modeling could be bidirectional only (no use case for different constraint from A -> B and B->A)
    - This goes more for Proposal#1
  - No need to model transport end points
  - Do we need to allow for multiple constraints ?
  - What constraints do we propose by default ?
    - Proposal :
      - Path diversity
      - Low latency with boundary
      - ??

# Issue#10 : How to handle VPN merging easily ?

- VPN is a per site property. A site can belong to multiple VPNs
- How to handle merging of two VPNs ?
- Is this an issue the service model has to deal with ?

# Issue : modeling customer-specific-information

- There was some request to remove customer-specific-information and put informations in appropriate containers
- Customer managed vs provider managed CE causes some modeling issues as we do not really know where the parameters apply. Does routing refer to CE – LAN routing or PE-CE routing ... depend of the mgt type

# Issue : modeling customer-specific-information

- Proposal :
  - All customer-specific-informations are dispatched in routing-information container
  - The routing-information interpretation depends on the CE mgt type :
    - If provider managed, it describes the CE to customer relationship
    - If Customer managed, it describes the PE to CE relationship
    - In any case it describes routing at the boundary of SP/customer responsibility

# Quick recap

Issue	Description	Status
1	When customer-nat-address used	Closed
2	Identify l3vpn svc using id or name	Closed
3	M to N availability	On going
4	Site-service-cloud-access as grouping	Closed
5	Multicast	On going
6	Inventory OPS state	On going
7	Generic VAS	Closed
8	Who keep site location info	Closed
9	Do we need to model transport constraints	On going
10	How to handle VPN merging easily	On going
	How to model customer informations	On going

# Not finished ... next steps ...

- We still need to work on :
  - Security parameters : encryption part to be reviewed !
  - Need to review if the current proposal fits any L3VPN rather than PE-Based only
- What about interAS consideration ?
  - In my mind, nothing to do ... but need to be discussed !
- What about Hybrid VPNs (public+private sites) ?
- Anything else ?