LISP Virtual Private Networks (VPNs)
draft-ietf-lisp-vpn-07

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Scope of the draft

- Segmentation of the EID space
  - Instance-IDs and Extended-EIDs (XEIDs)
  - Control Plane Procedures
  - Data Plane and Forwarding Procedures
  - Addresses Unicast and Multicast support

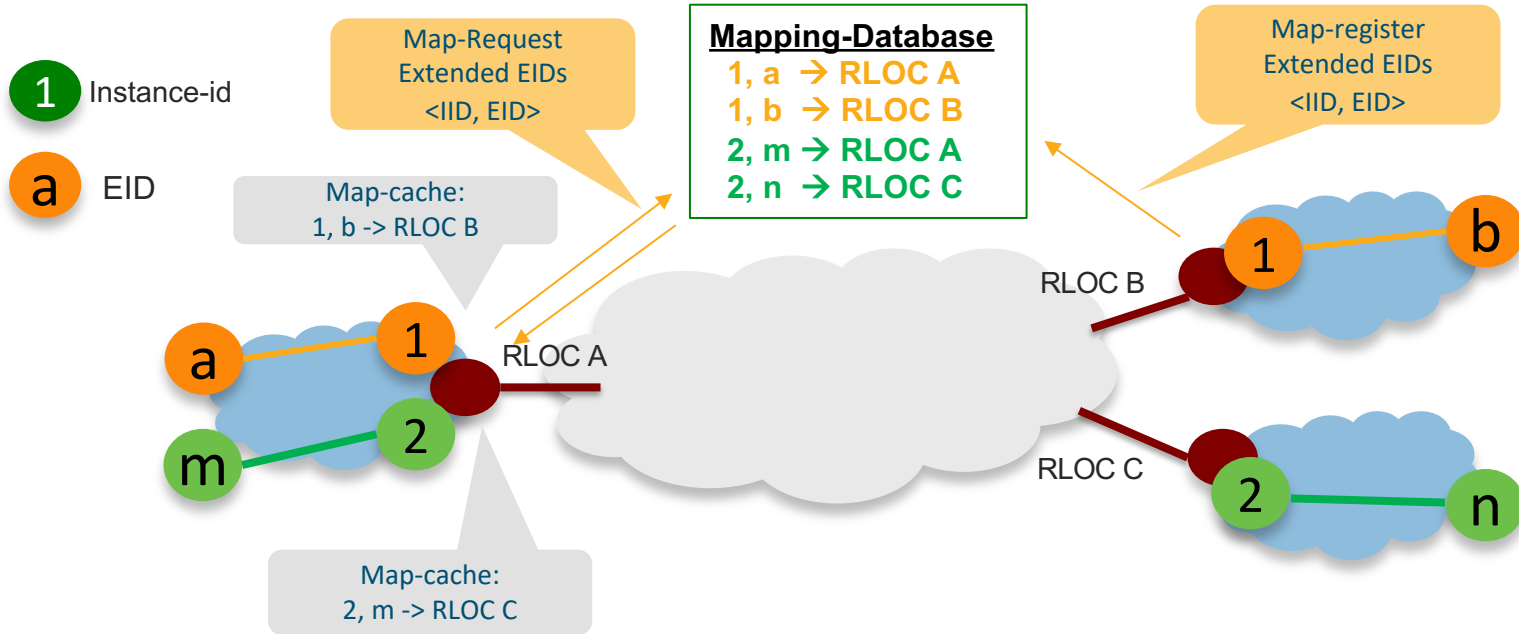- Considerations on Segmentation in the RLOC space

Scope of the draft

- Methods for Cross VPN Communication (Extranet)
  - Unicast and Multicast
  - Implications for Pubsub and SMR generation
  - Implications for RLOC probing support

- Home IID encoding as an RLOC

```
AFI = LCAF(16387)
  Type = LIST(1)
    ITEM1
      AFI = Distinguished Name
      Value = "Home-IID"
    ITEM2
      AFI = LCAF(16387)
      Type = IID(2)
      Value = <Home-IID.value>
```
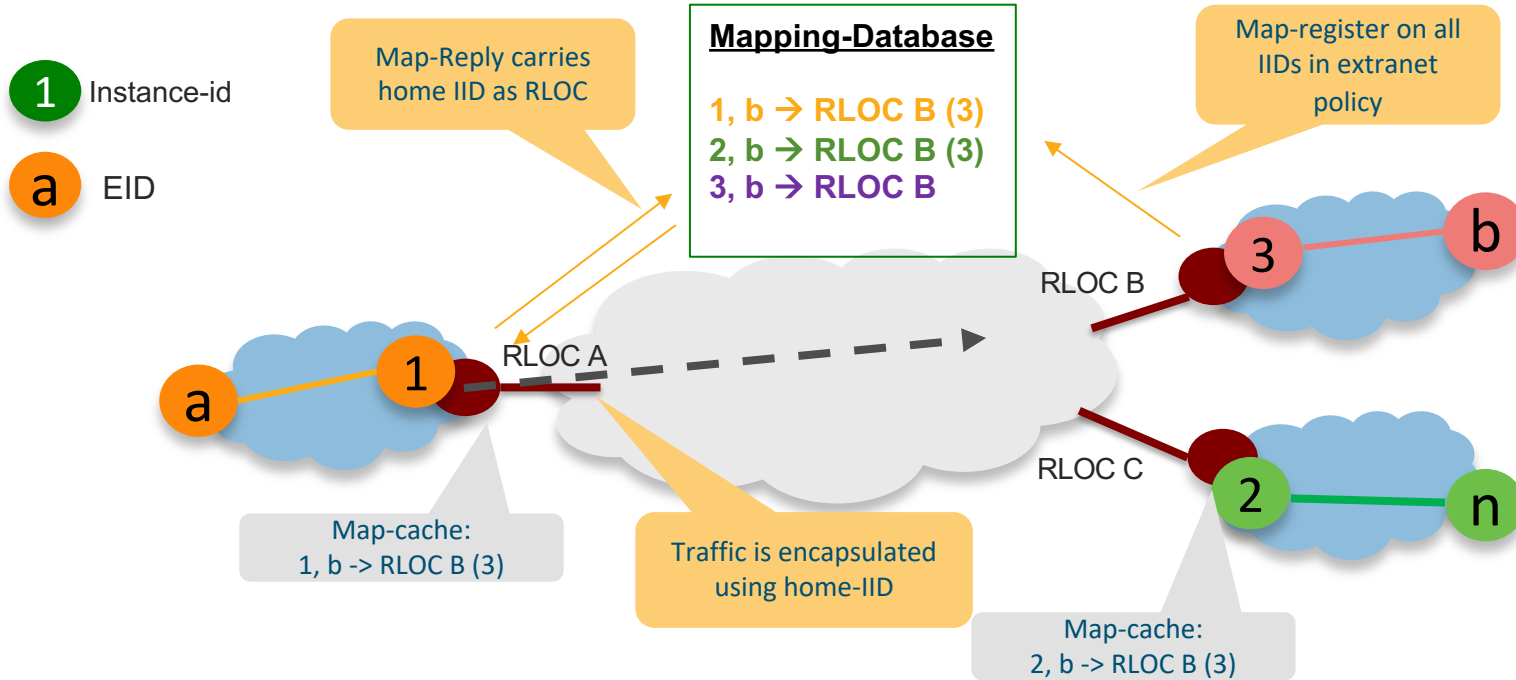
LISP VPNs

- IID Scoped registrations and resolutions

LISP VPN, Extranets

ETR configured:
- Extranet IID 3
  - List of member IIDs
- Extranet IID 5
  - List of member IIDs

- IID Scoped registrations and resolutions

1 — Instance-id

a — EID

Map-Reply carries home IID as RLOC

Mapping-Database

1, b → **RLOC B (3)**
2, b → **RLOC B (3)**
3, b → **RLOC B**

Map-register on all IIDs in extranet policy

RLOC B

RLOC A

RLOC C

Map-cache:
1, b -> RLOC B (3)

Traffic is encapsulated using home-IID

Map-cache:
2, b -> RLOC B (3)

LISP VPN, Extranets w/signal free multicast

- IID Scoped registrations and resolutions

ETR configured:
- Extranet IID 1
  - List of member IIDs (2, 3)

Mapping-Database

3, a, G → RLOC B
2, a, G → RLOC C
1, a, G → RLOC B (3), RLOC C (2)

1 Instance-id

a EID

ETRs send Map-register in their IID and the extranet IID

RLOC B

3

b

Source

a

1

RLOC A

RLOC C

2

n

Encapsulation using IID where source resides

Cross VPN replication at receiving side (following extranet policy)
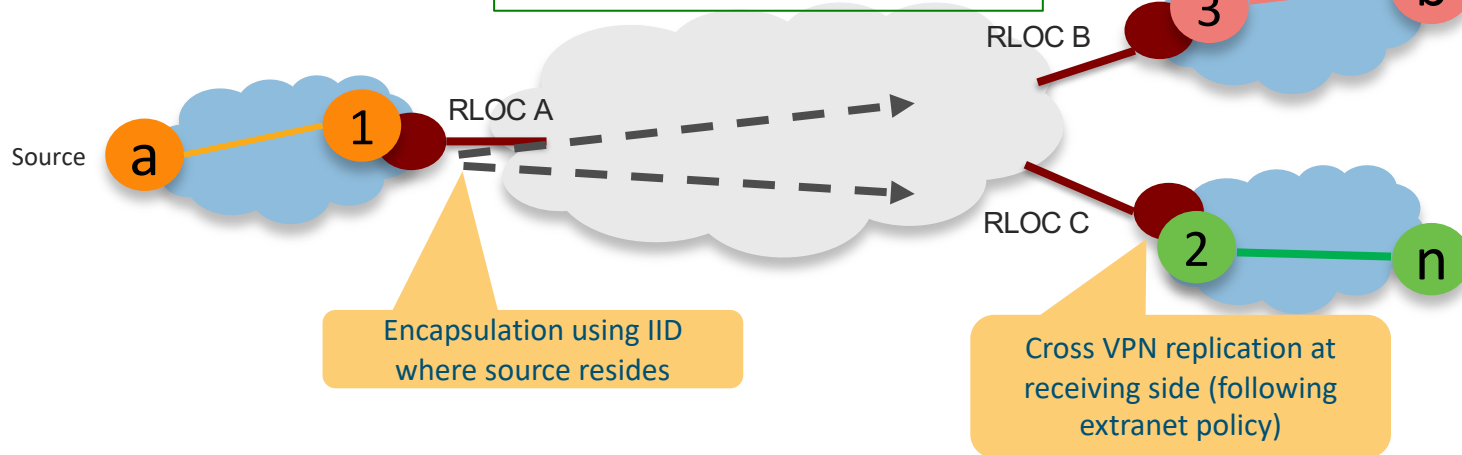
LISP VPN Latest changes

- The draft has not had many updates since it was adopted by the working group

- The last addition are the considerations with respect of cross-vpn hole calculation and use of home-IID

When the Map Server determines that the requested destination EID is either not an EID or not registered, it must calculate the covering prefix for the requested EID and reply in one of two ways:
– With a Negative Map Reply per the procedures outlined in [RFC6833]. If using a PeTR, the Home-IID for the PeTR must be configured at the requesting ITR.
– With a Map Reply mapping the calculated EID covering prefix to the RLOCs of a configured or registered PeTR. The Map Reply must contain the Home-IID of the registered PeTR.

Next Steps

- LISP VPNs constitutes the basis for segmentation and extranets used in multiple solutions out in the field.

- LISP VPNs, as specified in the draft, has been in use for some time now and the document includes experiences gathered from its practical use

- Authors would like to request the WG a last call for this document.

Comments, Questions