LISP Instance IDs

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Need to Carry VRFs?

• Carry (or map) VRF-ID or 802.1Q Tag (VLAN) over a LISP infrastructure
• Allows segmentation of sites to be maintained across a LISP infrastructure
• Aids in using private addresses or global address reuse at LISP sites
Add I-bit to Data Header

- Carry VRF-ID in a 24-bit field
- Header format now:

```
+-------------------------------+-----------------------------------------------+
| L |N|L|E| rflags |                 Nonce                         |
| I \ +-----------------------------------------------|
| S / | Locator Status Bits |                             |
| P  +-----------------------------------------------+
```

- Changed header format:

```
+-------------------------------+-----------------------------------------------+
| L |N|L|E|V|I|flags|                  Nonce                        |
| I \ +-----------------------------------------------|
| S / | Instance ID                 |     LSBs     |
| P  +-----------------------------------------------+
```

- When I-bit is set, max of 8 locator status bits
How to use Instance Field

• Packet arrives on L3 interface
  – Interface VRF-ID is copied to Instance Field

• Packet arrives on L2 switchport
  – VLAN-ID copied from MAC frame to Instance Field

• When decapsulating LISP packet
  – Lookup inner destination EID in VRF associated with VRF-ID in Instance Field
Overloading Fields

• When I-bit is 1 and L-bit is 1
  – Only the first 8 locators in a Map-Reply report up/down status via the LSBs
  – Any more locators do not (cannot) report status via the LSBs and are not treated as down

• When I-bit is 1 and L-bit is 0
  – Low order 8 LSBs bits are not used

• When I-bit is 0 and L-bit is 0
  – 32 LSB bits are not used
Proposed Plan

• If no objections put into draft-ietf-lisp-07.txt

• Make data-header changes in one revision
  - And reflect V-bit as well for Version-Hashing