

LISP Instance IDs

Anaheim IETF - LISP WG

Dino Farinacci

March 2010

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