Multi-Tuple-EIDs

draft-rodrigueznatal-lisp-multi-tuple-eids-00

A. Rodriguez-Natal, A. Cabellos-Aparicio, S. Barkai, V. Ermagan, D. Lewis, F. Maino, D. Farinacci

Albert Cabellos (acabello@ac.upc.edu)

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UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Motivation

- LISP for SDN/NFV use-cases
- Based on our experience with ODL
- Spin-off of *draft-rodrigueznatal-lisp-sdn-00*
- Goal of this draft:
  - Multiple-tuple-EID lookup vs. traditional destination-based lookup
  - Currently:
    - 5-tuple lookup
  - Planned:
    - Source-Destination
    - n-tuple?

Multi-tuple-EID lookup (vs traditional Dst_Addr lookup)

- Requires changes in
  - Tunnel Routers
  - Mapping System
- Define (per tuple type)
  - Lookup process
  - Encoding
  - Recommended Mapping System
- Instance-ID
  - Always higher order and priority

5-tuple (Coarse and Exact match)

- Strict order
  1. Destination address
  2. Source address
  3. Protocol number
  4. Destination port
  5. Source port
- Exact match
  - **`strcmp`** bitstring
- Coarse match
  - Prefer
    - Longest prefix
    - Shortest port range

- LCAF encoding
  - Application Data (4)
  - Source/Destination (12)
  - Specific LCAF required?

- Mapping Systems
  - Coarse -> DDT
  - Exact -> DHT

5-tuple example (coarse)

Ddst-adr has preference over src_adr

Mapping Database

	dst-adr	src-adr	pr	dst-prt	src-prt
(A)	**[1.1.1.0/24,**	**2.2.0.0/16,**	**17,**	**1000-3000,**	**1000-3000]**
(B)	[1.1.0.0/16,	2.2.2.0/24,	17,	1000-3000,	1000-3000]
(C)	[3.3.3.0/24,	4.4.4.0/24,	6,	4000-4500,	7000-8000]
(D)	[3.3.3.0/24,	4.4.4.0/24,	6,	4000-6000,	7000-8000]

Queries

(T)	**[1.1.1.8,**	**2.2.2.9,**	**17,**	**2000,**	**2000]**
(U)	[1.1.8.8,	2.2.9.9,	17,	2000,	2000]
(V)	[1.1.8.8,	2.2.2.9,	17,	2000,	2000]
(W)	[3.3.3.3,	4.4.4.4,	6,	4300,	7500]
(X)	[3.3.3.3,	4.4.4.4,	6,	5000,	7500]

5-tuple example (coarse)

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