Implementing OpenLISP with LISP+ALT

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Problem:
BGP routing table

• 300,000 entries
• Entries used to load balance
• Updates used for traffic engineering

No. of BGP entries
Solution: Locator ID split

- Ip-address used as locator and id
- Use separate addressing for location and endpoints
- Mapping table for location -- endpoint
Protocol: Locator ID separation protocol

- Encapsulation solution
- Separate addressing for locators and endpoints
- Mapping table request & reply
LISP + ALT

- Overlay network
- Based on standard protocols (GRE, BGP)
- More aggregation in BGP
OpenLISP

- FreeBSD implementation
- Kernel patch of IP stack
- Kernel API for mapping table management
OpenLISP + ALT

• GRE, FreeBSD GRE
• BGP, Quagga
• Mapping messages to ALT network
• LISP4
MapD

Mapping Daemon

- Map-reply
- Map-request

UDP 4342

Send on mapping socket

Listen on mapping socket

ADD
DELETE
GET
MISS
BAD REACH
REACH

OpenLISP API

Mapping Table

FreeBSD Kernel

MapD

FreeBSD Kernel

OpenLISP API

Mapping Table

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Conclusion

- OpenLISP on with LISP+ALT not yet possible
- Separate Daemon needed
- Most building blocks available
Questions