LISP Mapping Service Discovery at Large

draft-boucadair-lisp-idr-ms-discovery-01
IETF 95-Buenos Aires, March 2016

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Assumptions

• A Mapping System provides the LISP mapping service defined in RFC6833

• Distinct LISP mapping systems may arise
  – LISP network operators who solicit or manage the Mapping System may want to avoid some region-centric systems
  – LISP network operators may also want to position themselves as a core provider of the Mapping System

• A hierarchy in the Mapping System organization for Business, governance, control, and regulatory purposes is assumed

• A Mapping System may maintain a global mapping table or a portion thereof
The Risk of Fragmented Mapping Systems

- A scalable inter-domain LISP deployment relies on the availability of a *mapping system that spans several domains*

- The success of a global LISP deployment depends on how LISP-enabled domains are grafted to existing mapping systems that can *guarantee a global reachability scope*

- Thereby encouraging the coordination of participating Mapping Systems to *minimize the risk of a fragmented* mapping service
Some Issues

• Various Mapping Systems can be deployed over the Internet. These Mapping Systems need to interconnect to extend the reachability scope and avoid pressure on PxTR devices.
Some Issues

• A LISP domain may need to discover available Mapping Systems so that it can rely upon them to *invoke the LISP service*

What are the available MS providers?

Which MS Provider to select?
Proposed Solution

• Domains that support LISP Mapping Service uses BGP to advertise this service

• An extended BGP community is defined for this purpose: **LISP Mapping System Target BGP Extended Community**
  – Identifies one or more contact points that can receive Mapping System interconnect and/or subscription requests
  – Contact points are identified with IPv4 and/or IPv6 addresses

• Remote ASes rely on this attribute to discover remote Mapping Systems
  – A remote Mapping System can use the contact IP addresses to initiate an interconnection request
  – A leaf LISP domain can use the contact IP addresses to initiate a MS subscription request
  – Interconnection/subscription means are out of scope of this draft
What’s Next?

• Questions?
• Comments and contributions are welcome