Nothing has changed from -02 to -14

LISP Geo-Prefixes

draft-farinacci-lisp-geo-02

LISP Working Group - Seoul IETF
November 2016

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LISP Geo-Coordinate Use-Cases
draft-farinacci-lisp-geo-00

Abstract

This draft describes how Geo-Coordinates can be used in the LISP Architecture and Protocols.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

Appendix B. Document Change Log

[RFC Editor: Please delete this section on publication as RFC.]

B.1. Changes to draft-farinacci-lisp-geo--02.txt

- Posted October 2016.
- Change format of the Geo-Coordinates LCAF Type to be compatible with equivalent proposals for OSPF, IS-IS, and BGP.
- Add to the Security Considerations section to BCP160 compliance.

B.2. Changes to draft-farinacci-lisp-geo--01.txt

- Posted October 2016.
- Clarify that the Geo-Coordinates LCAF type should be encoded inside an Instance-ID LCAF type when VPNs are used.
- Indicate what the value of the Altitude field is when not included in a message. Since this draft shortens the field, a new value is specified in this draft for not conveying an Altitude value in a message.

B.3. Changes to draft-farinacci-lisp-geo--00.txt

- Initial draft posted April 2016.
5. Geo-Prefix and Geo-Point Encodings

<table>
<thead>
<tr>
<th>0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFI = 16387</td>
</tr>
<tr>
<td>Type = 5</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>E</td>
</tr>
<tr>
<td>Radius-low</td>
</tr>
</tbody>
</table>

When a Geo-Prefix or a Geo-Point are encoded in an EID-record, it is encoded solely with the Geo-Coordinates LCAF Type format when VPNs are not in use. When VPNs are used, the Geo-Coordinate LCAF Type is encoded within an Instance-ID LCAF Type.

- Create a consistent format among OSPF, IS-IS, BGP, and LISP
- Radius is a contiguous field
- Allow for different units for Lat/Long and Radius
- Provide for an Uncertainty index
6. Security Considerations

The use of Geo-Coordinates in any application must be considered carefully to not violate and privacy concerns about physical location.

IESG comments on LCAF draft to spec out privacy protection

Reference BCP160

Spec out where geo-coordinates are stored in LISP network elements
# Geo in Mapping System

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>no (ams)</td>
<td>yes (dynamic)</td>
<td>[0]104.155.10.225</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td>0:00:08</td>
<td></td>
</tr>
</tbody>
</table>

## lispers.net - Geo-Prefix

**Site name:** geo-locations [EID-prefix: [1000]|paris'], Registered: yes, dynamic

- **Description:**
  - Last registered: [0]104.155.10.225, xTR-ID: 0x30e223f69843f6c30, site-ID: 0
  - First registered: 23:48:02, last registered: 01:00:00, auth-type: abaa, registration flags: p-s-1-t-r-m-n
  - Default registration timeout TTL: 180 seconds
  - Forcing proxy Map-Reply: yes
  - Forcing proxy Map-Reply for xTRs behind NATs: no
  - Send drop-action proxy Map-Reply to PISTR: no
  - Proxy Map-Reply action: not configured

- **Allowed RLOC-set:** any

- **Registered RLOC-set (replacement-semantics):**
  - [0]110.201.119.66, state: up-state, up/udp/mw: 254/0/255/0, RTR
  - [0]110.201.119.66, state: up-state, up/udp/mw: 254/0/255/0, RTR

- **Individual registrations:** none

## lispers.net - Geo-Point

**Site name:** geo-locations [EID-prefix: [1000]|cdg'], Registered: yes, dynamic

- **Description:**
  - Last registered: [0]104.155.10.225, xTR-ID: 0x30e223f69843f6c30, site-ID: 0
  - First registered: 23:48:02, last registered: 01:00:00, auth-type: abaa, registration flags: p-s-1-t-r-m-n
  - Default registration timeout TTL: 180 seconds
  - Forcing proxy Map-Reply: yes
  - Forcing proxy Map-Reply for xTRs behind NATs: no
  - Send drop-action proxy Map-Reply to PISTR: no
  - Proxy Map-Reply action: not configured

- **Allowed RLOC-set:** any

- **Registered RLOC-set (replacement-semantics):**
  - [0]110.201.119.66, state: up-state, up/udp/mw: 254/0/255/0, RTR
  - [0]110.201.119.66, state: up-state, up/udp/mw: 254/0/255/0, RTR

- **Individual registrations:** none
Geo Lookups

Run **lig** on EID: ______________________ to Map-Resolver: ___________________________ count (1-5): ___________________________ no-nat: □ Submit

Run **rig** on EID: ______________________ to any DDT-node: ___________________________ follow-all-referrals: □ Submit

Run **geo-test** on geo-point: [1000]cdg' ___________________________ for geo-prefix: [1000]paris' ___________________________ Submit

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**lispers.net**

**Scalable Open Overlay Networking**

Geo-Point: 49-0-14-N-2-34-15-E (49.003889, 2.570833), EID [1000]'cdg'
Geo-Prefix: 48-51-12-N-2-20-55-E/100 (48.853333, 2.348611), 100 kilometer radius, EID-prefix [1000]'paris'
Distance: 23.36 kilometers, point is inside of circle

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