
ITC - Loc/ID Separation SIG Report 2014

In the framework of ITC Special Interest Groups activities, the Locator/ID Separation SIG has been created in 2012, aiming at gathering and disseminating activities about the Locator/ Identifier Separation paradigm. The paradigm is instantiated in LISP (Locator/Identifier Separation Protocol) and the highlights of 2013/2014 activities concern the advances in the IETF LISP WG, the evolution of the OpenLISP implementation, and the growth of the LISP Beta Network.

The LISP WG at the IETF, in the last year, has worked in order to complete the milestones in its charter. The WG gave priority to the document aiming at describing the overall LISP architecture to newbies (draft-ietf-lisp-introduction). The document was lingering without real progress, until mid-2014, when new editors have been assigned to carry on the work. As of November 2014, the document just went over Working Group Last Call, which makes it ready to be forwarded to the IESG (Internet Engineering Steering Group) for evaluation and publication.

Another main work item has been the request to IANA (Internet Assigned Numbers Authority) of an IPv6 address space reserved for LISP. Such work has been split in two documents, a first one - draft-ietf-lisp-eid-block - just simply requesting to IANA to reserve the addressing space for experimental purposes for at least 3 years; a second one - draft-ietf-lisp-eid-block-mgmt - providing policy guidelines on how such addressing space has to be administered. The first document already went through Working Group Last Call and is now waiting the second document in order to move together forward to the IESG. The second document has been thoroughly reviewed and has now a large support that should lead to Working Group Last Call consensus by the end of 2014.

Another important activity of the working group is the publication of the LISP threats analysis document. Such document is one of the most controversial and has generated long discussions on the mailing list and during IETF meetings. Compared to its 2012 version, the document has been almost completely re-written. It is now split in two parts, one describing attacks that can be carried out to LISP, and the second, actually still under writing, will focus on techniques to mitigate the threats identified the first part.

The WG also published two new RFCs:

- RFC 7052: Locator/ID Separation Protocol (LISP) MIB. This document defines the MIB (Management Information Base) to be associated to any LIS instance on main routers.
- RFC 7215: Locator/Identifier Separation Protocol (LISP) Network Element Deployment Considerations. This documents overviews the different options in the deployments of the LISP's network elements and issues and consequences of the different available options.

The OpenLISP project (www.openlisp.org) is an open source implementation of the LISP protocol on FreeBSD platform. During 2013/2014 the implementation work mainly focused on the LISP control plane (<http://www.lisp.ipv6.lip6.fr>). Beside important work to improve the stability of the code, new features have been added, especially concerning the Traffic Engineering (TE) capabilities but also LISP-DDT features. At this moment OpenLISP is the only LISP-DDT alternative to the proprietary Cisco implementation. Similarly to OpenLISP, LISPmob is an opens source implementation of LISP, but for Linux platforms. So far, LISPMob has mainly focused on the data-plane and access features. For instance, LISPMob implements NAT traversal and mobility features, but lack support of LISP-MS/LISP-MR/LISP-DDT. Other implementation are also starting to popup, e.g., LISP support has been added to OpenDayLight and OpenStack, while AVM added LISP support to their set-top-box called FritzBox. Furukawa Electric Group also included LISP in their products.

The LISP Beta Network (www.lisp4.net) has continued its growth, with 140 sites connected using the LISP technology. Some of the sites use the open source implementation OpenLISP (cf., above). Ever since the switch from the LISP-ALT (LISP ALternative topology) mapping system to the LISP-DDT (LISP Delegated Database Tree) mapping system, the beta network seems more stable, with a mapping system providing reliable service.