ITC - Loc/ID Separation SIG Report 2016/2017

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 2016/2017 activities concern the advances in the IETF LISP WG and the evolution of the LISP implementations.

The LISP WG at the IETF, has been rechartered two year ago for two main reasons:

• Modify the LISP specifications so to be go on the standard track (current specification are classed "experimental");

• Open the scope of the activity so to include new work item including mobility, multi protocol support, and multi-tenant Mapping Distribution Systems.

The LISP WG has put quite some efforts in the first objective, working intensely and steadily on the definition of two main documents describing the LISP data-plane and the LISP control-plane. The WG felt that this organisation into two documents is the best, since, it allows to specify the two parts independently. Meaning that the data-plane can work with any compatible control-plane, while the control-plane can support different types of encapsulations (i.e., data-planes). This fully comply with the WG charter. For the second objective, the WG has spent quite some time on solutions that are meant to introduce more security and privacy in the whole architecture, including data-plane encryption and control-plane authentication and authorisation. Another important work item has been mobility support in the LISP architecture, tackling two main scenarios: a) the mobile node itself implements LISP operations; b) the xTR of the mobile domain manage the node mobility via LISP mechanisms. One last work item that has gathered the focus of the working group is the introduction of a Publish/Subscribe model for the LISP control plane and the multi-tenant control-plane (which apparently has an interesting use-case in avionics, more precisely in the air-ground communication systems for aircrafts).

The OpenLISP project (www.openlisp.org) is an open source implementation of the LISP protocol on FreeBSD platform. During 2016/2017 the implementation work mainly focused on the LISP control plane (https://github.com/lip6-lisp/control-plane). As the only alternative to the Cisco implementation concerning LISP-DDT functionalities, the project has focused on improving the stability of such feature. Furthermore, OpenLISP control plane does now support multi-tenancy, it is the only one so far offering such feature. The Open Overlay Router (http://www.openoverlayrouter.org) has more evolved toward the support of YANG/Netconf and the Publish/Subscribe control plane. The python based implementation lispers.net, has also evolved in a very feature reach implementation, which includes support for cryptography and mobility.