LISP-based Follow Me Cloud (FMC) in next generation mobile network

The objective of the FMC concept introduced [1] is to enable a user to be always connected to the optimal data anchor and mobility gateway and to access its data and/or service from the optimal DC, i.e., geographically/topologically nearest (or in any other metric such as load, processing speed) DC. For a successful implementation of FMC, we focus on management of user mobility and Virtual Machine (VM) live migration (mobility) while maintaining service continuity. Indeed, one of the challenging tasks is to migrate VMs between Hypervisors that belong to DCs with two different IP subnets. This becomes more complicated if the service continuity is required and that is for two reasons: (i) VM has to maintain its initial IP address after migration (hypervisor constraint); (ii) “hot” migration process requires that the VM is maintained in active state (not stopped).

In this master internship we propose to explore how we can use LISP to define a feasible FMC architecture. In this regard, it is important to study how LISP can address the two above cited issues. The output of this master is then to show a Proof of Concept of the LISP-based FMC.

Key words: Cloud, Mobility, VM migration.

Skills: Networking concepts, C programming, experience with routers and Virtual Machine would be very appreciated.

Reference:

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A gratification of 436,05 €/per month will be given.