MASTER THESIS – APPLICATION AWARE FLOW STEERING IN A CLOUD ENVIRONMENT USING OPENFLOW

Background
Mobile networks are used all over the world and are the cornerstone in the networked society, where everything that benefits from a connection shall be connected. To support the vast amount and diversity of data expected in future networks, Ericsson are developing products to drive and support the networked society. The subjects for Master Thesis are defined to investigate and develop algorithms, architecture, tools etc. to support huge increase of speech, data and massive IoT for Radio Access Networks.

Thesis Description
One possible system architecture when developing for the cloud is to push as much functionality as possible into the cloud infrastructure and keep pure “business logic” in application specific VMs or containers.

OpenFlow is a communications protocol that gives access to the forwarding plane of a network switch or router over the network. GTP (GPRS Tunneling Protocol) is a group of IP-based protocols used to carry data in telecom networks ranging from 2G/GSM to 5G.

Task:
- Study and evaluate the possibility of doing GTP packet processing using many small VMs with application flow steering in the cloud infrastructure.

The thesis will be concluded with a result presentation for the Ericsson team.

Qualifications
This project aims at students in electrical engineering, computer science, computer engineering or similar. Background in wireless communication is preferred.

Extent
1-2 students, 30hp each

Location
Ericsson AB Mjärdevi, Linköping

Preferred Starting Date
Spring 2018

Keywords
C++, Mobile Telecommunication, Open flow, 5G, Cloud

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