MASTER THESIS – TRAFFIC LOAD GENERATOR FOR 5G NETWORKS

Background
At Ericsson, we are building next generation cellular networks, also called 5G. In our Product Characteristic unit, we are responsible for investigating, measuring and profiling the product characteristics to improve and drive enhancements and capacity increase.

We currently have one thesis defined where an open framework that simulates network activity is developed. This thesis expands that simulator and defines a traffic load generator. With the help of this traffic generator, it should be possible to create load both from terminals and from applications.

It should be possible to have several different applications and each application behavior should be controlled by a mathematical traffic model. This model shall describe both signaling intensities from individual application instances as well as network behavior of application instance groups that create traffic load.

Thesis Description
The following steps are envisioned as part of the thesis work:

- Investigate and compare current load generating mechanisms and patterns.
- Define and implement one terminal and one network injected load
- Analyze results of the tests and evaluate a potential expansion of load generators.

The thesis will be concluded with a result presentation for the Ericsson System 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: Fall 2017
Keywords: C++, Java, 5G, Mobile Telecommunication, Optimization, Simulation

Contact Persons
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