Master Thesis – High Performing Cloud Native SW Using Key Value Storage or Database for Externalized States

**Background**
Mobile networks are used all over the world and are the corner stone for the networked society, where everything will be connected. To support the vast amount and diversity of data expected in future networks, Ericsson develops products to drive and support the networked society. The subject for this Master Thesis is 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**
Externalizing state is a common pattern for making stateful applications less dependent on specific u-Service instances and to be able to handle crashes and resilience in a more graceful manner. In a typical telco application this might lead to a lot of interactions with that externalized state which might impact experienced end user latency. This thesis work aims to build a model and a simulator of this behavior to find the sweet spot between completely stateless instances and completely stateful services.

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.

**Extent**
1-2 students, 30hp each

**Location**
Ericsson AB Mjärdevi, Linköping

**Preferred Starting Date**
Spring 2023

**Keywords**
SW development, Mobile Telecommunication, Optimization.

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