

Bachelor's Thesis

# An SCTP Load Balancer for Kubernetes to aid RAN-Core Communication

Cloud Native deployments of the 5G Core network are gaining increasing interest and many providers are exploring these options. One of the key technologies that will be used to deploy these Networks, is Kubernetes (k8s).

In 5G, NG Application Protocol (NGAP) is used for the gNB-AMF (RAN-Core) communication. NGAP uses SCTP as a Transport Layer protocol. In order to load balance traffic coming from the gNB towards a resilient cluster of AMF instances, a L4 load balancer needs to be deployed in the Kubernetes Cluster.

The goal of this project is to develop a SCTP Load Balancer to be used in a 5G Core Network to aid the communication between the RAN and Core.  
The project will be developed using the language Go (<https://golang.org/>).

## Prerequisites

- General knowledge about Mobile Networks (RAN & Core).
- Good knowledge of Cloud Orchestration tools like Kubernetes.
- Strong programming skills. Knowledge of Go (<https://golang.org/>) is a plus.

## Contact

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## Advisors

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