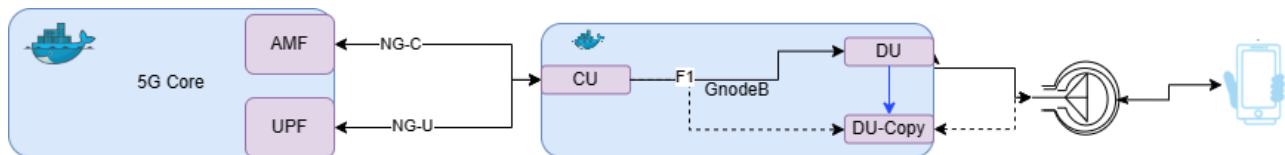




Task Description for Student/Diploma/Master Thesis

Topic: *DU Lossless Migration*



Description:

With the advent of 5G, a continuous effort was seen to virtualize the functions supporting mobile communications. With an architecture based on NFV (Network Function Virtualization), it becomes possible to separate and freely allocate resources according to one's network's necessities. Coupled with the ever-increasing throughput requirements for new applications, edge computing presents itself as an attractive solution. In line with these trends, RAN (Radio Access Networks) are being rethought and partitioned into CU (Centralized Units) and DU (Distributed Units). This change can lead to lower bandwidth requirements, and give rise to in-network processing opportunities. The objective of this task is to implement an (Intra or inter-computer) migration procedure, that makes use of the containerized nature of next-generation networks while mitigating loss of functionality.

The student is expected to fulfill the following sub-tasks:

Tasks:

- Literature review
- Propose a solution
- Evaluate the proposed solution
- Write up a report

Requirements:

- Basic knowledge of Computer Networks, Linux, Docker
- Programming languages: C and Python
- Markup languages: YAML

Language: English

Our offer that helps students focus on their work:

- Measurement tools and scripts

Keywords: 5G core, Container Migration, Network Function Virtualization

Contact: M.Sc. Ricardo Pousa (ricardo_jose.baptista_pousa@tu-dresden.de)