Our Exciting Opportunity

Background & goal

With 5G being rolled out across the world, new performance sensitive applications are emerging in various domains, such as healthcare, transportation, entertainment, etc. To meet their performance goals, such as availability, latency, etc., distributed edge clouds will be set up near the logical edge of mobile operator’s network.

How much an application (based on its resource consumption) in a distributed edge cloud will cost to a mobile operator depends on the location as well as the distribution of edge cloud sites inside mobile operator’s network. In order to estimate cost of an application based on its resource requirement (such as compute and bandwidth), one needs to know the network architecture as well as transport solutions for the potential edge compute sites. Depending on the site location (site depth with respect to the core), distribution of the sites, transport solutions (such as IP based leased lines or in-house transport solutions on dark fiber in 5G context), both availability and transport cost (such as in USD/Gbps) may vary for edge sites. In this work, we investigate the impact of different transport architectures and solutions on both cost (including capex and opex) and availability in the context of 5G and distributed edge cloud. These research questions will help in accelerating investment in edge clouds.

Work description

1. Perform literature review on the techno economic models for transport solutions for distributed edge cloud from mobile operator’s perspective,
2. Investigate and propose methodology for availability and cost (capex and opex) estimation as a function of location (depth with respect to core) and distribution of edge sites in mobile operator’s network,
3. Do sensitivity analysis for parameters used in estimating transport cost,
4. Evaluate what’s best transport solution from cost and availability perspective for distributed edge cloud in a mobile operator’s network.
Qualifications and experience

- Master's student in engineering, computer science, telecommunications, or economics.
- Knowledge of distributed systems and cost modelling
- Knowledge of transport solutions
- Knowledge in statistics.

Additional Details

The work is expected to start in Jan/Feb 2021. The work is proposed for 1 student for a duration of 6 months. Location is at Ericsson Research and the thesis will be co-supervised with Chalmers University. Please submit your application in English as soon as possible - we are working continuously with candidate selection.

What's in it for you?

Here at Ericsson, our culture is built on over a century of courageous decisions. With us, you will no longer be dreaming of what the future holds – you will be redefining it! You won’t develop for the status quo, but will build what replaces it. Joining us is a way to move your career in any direction you want; with hundreds of career opportunities in locations all over the world, in a place where co-creation and collaboration are embedded into the walls. You will find yourself in a speak-up environment where empathy and humanness serve as cornerstones for how we work, and where work-life balance is a priority. Welcome to an inclusive, global company where your opportunity to make an impact is endless!

What happens once you apply?

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