



MASTER THESIS OPTIMIZATION OF CONTENT DELIVERY NETWORK

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T-LABS is the R&D department of Deutsche Telekom focusing on translating new technology trends and delivering tangible results into Deutsche Telekom's innovation portfolio. Our current research areas are: Future Networks & AI, Spatial Computing and Decentralized Systems. Co-Research is the key mission for the team, with the vision of achieving a superior customer experience and exploring disruptive technologies for future telecommunications infrastructures. From our base in Berlin, we are cooperating with multiple universities in Germany, Europe, Israel and globally.

We are currently looking **for a master thesis student** to support our Spatial Computing team (www.laboratories.telekom.com) in Berlin within the activity optimization of DT's content delivery network (CDN).

This CDN is expected to significantly grow in the near future. Therefore DT investigates possibilities for service quality improvement. Interesting and promising topics are the application of state of the art TCP flow control algorithms and packet pacing to avoid bufferbloat and their implication especially on adaptive bitrate (ABR) multimedia streaming services. The **master thesis includes** the analysis and assessment of performance improvements of the CDN platform and their implementations. The focus is on packet pacing and TCP flow control.

Responsibilities

- Understanding the content delivery network of DT and the service quality of DT's streaming service
- Proposing, analyzing and assessing theoretical improvements of caching algorithms (focusing on packet pacing and TCP control)
- Implementing and testing of improvements
- Consulting with DT experts

Requirements

- Flexibility
- Service-oriented approach
- Expected knowledge in TCP/IP, statistics, Linux and http
- Desired knowhow in data analytics (Python), Elasticsearch, ABR (Adaptive Bitrate Streaming) and caching principles

Contact person

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Please send your complete application to peter.pogrzeba@telekom.de