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Analysis of Multipath-TCP for Mobile Data

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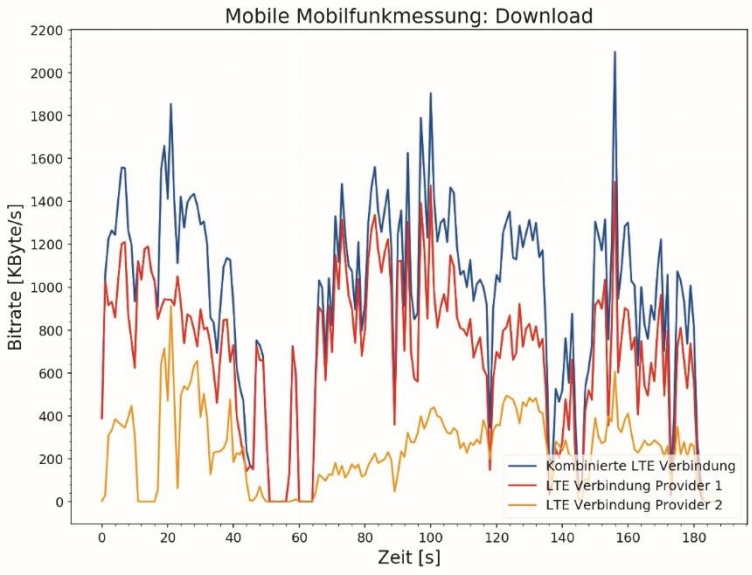
The focus of this work was the evaluation of different multipath technologies in order to find a solution for improved performance and redundancy in mobile networks. An important requirement was that the transmission must be encrypted. Realistic scenarios were defined for this purpose to determine the best solution.

The evaluated solution was then subject of field tests to validate the results obtained in the laboratory.

The field test measurements showed that the evaluated solution Multipath-TCP combined with with OpenVPN over TCP is not always an improvement. If two paths with different characteristics (available bitrate and round trip time), the performance can be worse than the better TCP connection alone.

A Multipath-TCP connection with paths of similar bandwidth and round trip time can't always be guaranteed in reality. Therefore, only a limited recommendation for Multipath-TCP in combination with OpenVPN over TCP can be given.



Data rates of the combined LTE connection and the respective individual LTE connection