

# **Addressing the Emerging challenges in Modeling and Simulating the Performance of LTE Networks**

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There is several challenges in LTE system capacity and performance evaluation. Among other things, traffic modeling and distributions, the quality of services (QoS) requirements of such traffic, the instantaneous propagation conditions, and the number of users in the system can influence the system capacity a great deal. The convergence between the internet traffic and the LTE traffic can complicate the performance evaluation of LTE system. Therefore, in this contribution, we are aim to provide an accurate LTE system evaluation and capacity based on addressing the identified challenges. Another contribution is the utilization of the internet traffic profiles for the various applications. We are presenting a mathematical model based on Continuous Time Markov Chain (CTMC). We are utilizing a system level enhanced simulation tool by the author for numerical analysis.

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