Abstract

Video communication over mobile broadband is gaining popularity due to the increased demand for applications such as Video on Demand (VoD), IPTV, video conferencing etc. In order to support these video applications over mobile broadband, efficient video streaming within the limited bandwidth environment is essential. Further, Long Term Evolution (LTE) network incorporates advanced Radio Resource Management (RRM) mechanism such as scheduling to
realize efficient video streaming over limited bandwidth arena. Scheduling does the task of dividing and allocating radio resources in order to maximize system throughput and enhance Quality of Experience (QoE) of the end user. Hence, in this paper an attempt has been made to evaluate the performance of Round Robin (RR) and Proportional Fair (PF) scheduling algorithms using Exata network emulator for real video traffic generated by Video LAN (VLC) media player. Packet Delivery Ratio (PDR) and throughput are considered as performance metrics for the emulation studies.

References

- Wenyu Li, Chao ZHANG, Li JIN, Zhongfang WANG, Lin ZHANG, Yu LIU; A Dynamic MaxPRB-adjusting Scheduling Scheme based on SINR Dispersion Degree in LTE System; IEEE 75th Vehicular Technology Conference (VTC), Pp(s):1-5, 2012.
- Sandhya Kulkarni, H. J. Thontadharya, J. T. Devaraju and D. Das; Performance Evaluation of VoIP in Mobile WiMAX; Simulation and Emulation studies; Vol. 3 No. 3, Pp(s): 1124-1130, 2011.
- Li Li and Subin Shen; End-to-End QoS Performance Management across LTE networks; 13th Asia Pacific Network Operations and Management Symposium, Pp(s): 1-4, 2011
- Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Quality of Service (QoS) concept and architecture (3GPP TS 23. 107 version 11. 0. 0 Release 11)
- Anup Talukdar, Mark Cudak and Amitava Ghosh; Streaming Video Capacities of LTE Air-interface; IEEE International Conference on Communications, Pp(s): 1-5, 2010
- Vladimir Vukadinovi´c and Gunnar Karlsson; Video Streaming Performance under
Performance Study of Round Robin and Proportional Fair Scheduling Algorithms by Emulation for Video Traffic in LTE Networks

Proportional Fair Scheduling”, IEEE Journal on Selected areas in Communications”, Vol. 28, No. 3, Pp(s): 399-408, 2010

Index Terms

Computer Science

Algorithms

Keywords

Lte Qos Round Robin Proportional Fair Emulation.