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Maximum-largest weighted delay first algorithm for heterogeneous traffic in 4G networks (Article)

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Abstract

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Real time applications with strict QoS like delay sensitive applications require an advanced technology to adopt them. This is where Long Term Evolution-Advanced (LTE-A) fulfills this requirement. With this ever evolving technology the need for improvements is required. Packet scheduling is one of the important key features of LTE-A, where it dictates user selection and transmission of those user's packets based on the priority of the users to reach the receiver correctly. Packet scheduling is one mean to achieve those QoS requirements that real-time applications require. Such algorithms are HARQ Aware Scheduling Algorithm (HAS), Retransmission Aware Proportional Fair Algorithm (RAPF), Chase Combining Based Max C/I Scheduling and Maximum-Largest WeightedDealy First algorithm (M-LWDF). In this paper, M-LWDF is one of the best algorithms in LTE-A which was chosen for further investigated to support QoS in high mobility environment. Packet Loss Ratio (PLR), and Mean User Throughput performance measures were used to validate the performance of M-LWDF algorithm against other algorithms using similar mobile environment. Simulation results indicate the capability of M-LWDF algorithm within the threshold of the performance measures against other benchmarks where it has demonstrated more efficiency to support and improve the performance of real-time multimedia traffic. © 2018 Institute of Advanced Engineering and Science. All rights reserved.

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LTEA M-LWDF MAC protocol Multimedia Scheduling

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