

## Documents

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**Adapting the Conventional Packet Scheduling Algorithms for Simultaneous Support of 5G Multimedia Traffic Mix** (2023) *2023 International Conference on Fractional Differentiation and Its Applications, ICFDA 2023*, .

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**Abstract**

Simultaneous support of multimedia traffic mixture with strict and contending Quality of Service (QoS) in the downlink Fifth Generation (5G) mobile wireless network is a challenging issue. In the 5G wireless network, packet scheduling is in charge to deliver multimedia packets to the end users such that the scarce 5G radio resources are effectively used and the strict multimedia QoS is maintained for many users. Given that devising a new packet scheduling algorithm is time-consuming and requires additional effort, this paper slightly modifies several renowned conventional packet scheduling algorithms and evaluates their performance when simultaneously supporting Ultra-Reliable Low Latency Communication (uRLLC) and enhanced Mobile Broadband (eMBB) in the downlink 5G. The efficiency of the Modified Maximum-Largest Weighted Delay First (M-MLWDF) algorithm was demonstrated via computer simulation where the algorithm supports 112.9% more users over Modified Max-Rate (M-Max-Rate) and Modified Round Robin (M-RR) at the uRLLC QoS targets whilst meeting the target eMBB throughput. © 2023 IEEE.

**Author Keywords**

5G; enhanced Mobile Broadband (eMBB); packet scheduling; Quality of service; Ultra-Reliable Low Latency Communication (uRLLC)

**Index Keywords**

5G mobile communication systems, Multimedia systems, Scheduling algorithms, Wireless networks; 5g, Enhanced mobile broadband, Low-latency communication, Mobile broadband, Multimedia traffic, Packet scheduling, Packet scheduling algorithm, Quality-of-service, Traffic mix, Ultra-reliable low latency communication; Quality of service

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