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Simulation of packet scheduling in cognitive long term evolution-advanced (Article)

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Abstract

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Real Time (RT) and Non-Real Time (NRT) multimedia content demand on mobile devices are increasing at a high pace. Long Term Evolution-Advanced (LTE-A) is expected to cater these demands. However, LTE-A operates at fixed spectrum which leads to spectrum scarcity. Cognitive Radio (CR) is one the promising technologies that is used to overcome spectrum scarcity and implementation of CR into LTE-A will improve spectrum availability and efficiency of the network. Furthermore, with addition of Packet Scheduling (PS) in the cognitive LTE-A, QoS requirement of the mobile users can be guaranteed. However, the study on the stated is very limited. Thus, this paper models, simulates and evaluates performance of five well-known PS algorithms for supporting the RT and NRT multimedia contents. The simulation results show that Maximum- Largest Weighted Delay First (M-LWDF) is the best candidate for implementation in the cognitive LTE-A. © 2017 Institute of Advanced Engineering and Science. All rights reserved.

Author keywords

Cognitive LTE-A Multimedia Packet scheduling Quality of service

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