

PERFORMANCE EVALUATION OF QUEUING DISCIPLINE IN UMTS WCDMA NETWORKS

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ABSTRACT

Third generation of GSM technology (3GSM) has a Wideband-CDMA (W-CDMA) air interface. W-CDMA includes a shared high-speed channel for traffic from the base station to the mobile users. Queuing disciplines have now become the subject of intensive discussion in network field. There are several queuing disciplines that claim best performance. In this research paper, we implement five queuing disciplines (FIFO, PQ, WFQ, MWRR & DWRR) on UMTS WCDMA network for different multimedia traffic and analyze the performance of various queuing discipline on UMTS network. OPNET simulator is used to simulate the UMTS network. Intensive and close simulation perform on network over various queuing discipline and it shows that MWRR and DWRR show best and very close performance for all considered parameters except delay jitter and end to end delay where PQ seems better.

KEYWORDS: UMTS (Universal Mobile Telecommunication Architecture), Weighted-Fair Queuing, Deficit-Weighted Round Robin, Priority Queuing, Multi-Class Traffic, OPNET Simulator