ABSTRACT

UMTS (Universal Mobile Telecommunication System) is third cellular generation with 5 MHz bandwidth and designed for access service which is faster than previous generation without changing the whole network already built. UMTS have high chip rate (3,84Mcps) and data rate up to 2 Mbps [12].

Unbalance speed between transmit and receive make data flow not efficient and sometimes packet data loss while transmitted due to buffer limitation. So, it needs some method to control the flow in order to get maximum data transfer and also downlink buffer not overload.

The purpose from this research is to compare sliding window flow control and adaptive credit allocation using Network Simulator 2.30. For delay the results obtained for adaptive credit allocation is smaller 3ms – 7ms than sliding window and for packet loss both flow control still meet the standard of ITU-T. As for the network throughput, the different result is not much. The average throughputs from 3 simulation scenario are: 303,09Kbps; 481,76Kbps; and 143,83Kbps for sliding window. Adaptive credit flow control: 424,40Kbps; 571,46Kbps; and 181,55Kbps

Keyword: UMTS, flow control, delay, throughput, packet loss, sliding window, adaptive credit, NS-2, TCP