

Abstract

HSDPA is UMTS Release 5 which was introduced by 3G Standardization Agency in Europe 3rd Generation Partnership Project (3GPP) as a new schematic in sending packet data which has a downlink data rate speed up to 14.4 Mbps. The downlink speed owned by the HSDPA technology is very supportive in every packet data transmission, particularly multimedia packet like video streaming.

In this final task, analysis is conducted for HSDPA network on MAC-hs layer by analyzing the result from video packet performance, using two scheduling method, such as Round Robin Scheduling and Proportional Fair Scheduling. These two scheduling will be tested in two scenarios. First the influence from web packet addition in data transmission. Second, observing the influence from additional number of users. The scenarios is modelled by using NS2, that is ns-allinone-2.26 by adding the Enhanced UMTS Radio Access Network Extension (EURANE) module and by adding modification in Proportional Fair Scheduling.

From the simulation result, the two scheduling algorithm which used to create a different performance from the stated parameters, that is delay, throughput, jitter and packet loss. Delay and jitter which resulted from Proportional Fair Scheduling is better than the delay and jitter from Round Robin Scheduling, as well as throughput which results a better value even with the additional number of users. On the other hand, packet loss from these two scheduling has a big value even though they have different result. This is happened because of the transmitted packet is a video. But from the overall scenarios, the highest value of delay, jitter, throughput and packet loss achieved by Proportional Fair Scheduling.

Key words : HSDPA, Round Robin Scheduling, Proportional Fair Scheduling, Video Streaming, delay, jitter, throughput, packet loss