ABSTRACT

Universal Mobile Telecommunication System (UMTS) Release 6 is the existing development of UMTS Release 99 technology. Release 6 has a transfer data rate reaches 5,72 Mbps in the uplink side, this allows to doing triple play services. Triple play is a combination of voice, video, and data. it takes a good QoS that can provide satisfactory performance in UMTS Release 6, one step that can be done is by the application of RSVP protocol in that network. RSVP is a signaling protocol that is used to perform resource reservation on the network in order to obtain better service quality.

In this final project, created a simulation of UMTS Release 6 networks by applying the RSVP protocol on triple play services using OPNET modeler 14.5. conducted a review of network performance by increasing the number of user and movement speed of user. QoS parameters are considered in this simulation include delay, jitter, throughput, and packet loss.

From the simulation has been done, found that application of RSVP in UMTS Release 6 provides a better QoS value compared to the network without RSVP protocol. This network is also able to provide better QoS for users with high mobility up to speed 100 Km/h observed with a relatively stable value of throughput and packet los at a speed of 100 Km/h on VoIP services valued at 1.747 % (non RSVP) and 1.428 % (RSVP), which is still in good category from Thipon standardization. But for the number of users that much, these networks provide QoS is not good, judging from the delay value obtained on the number of users in a VoIP service that is valued at 646.673 ms (non RSVP) and 601.377 ms (RSVP).

Keyword : UMTS Release 6, RSVP, Triple play, QoS