

ABSTRACT

IPTV is a digital television service system which is sent by IP network. IPTV, a real time application, that has sensitivity with delay and jitter. Besides, high bandwidth is truly needed. The characteristic of IP network which is use by IPTV is best effort. With using MPLS Diffserv technology that not only mixes the switching function in layer 2 and routing in layer 3 but also differentiates services can handle the decrease of QoS in IPTV service.

In this final project, the implementation of IPTV application in MPLS Diffserv network used by network emulator,GNS3, in simple topology. In this network, there is an analysis of IPTV quality with changing the background traffic parameter.

From this emulation result, MPLS Diffserv can make the QoS parameter value better. Seen from throughput, delay, packet loss, and jitter result, using MPLS Diffserv technology is better than MPLS without Diffserv technology. MPLS Diffserv technology can give greater throughput up to 32,9%, minimize packet loss until 21,36%, decrease delay until 10,2%, and also decrease jitter until 9,5%.

Keyword : IPTV, MPLS, Diffserv, delay, jitter, packet loss, throughput