ABSTRACT

sufficient bandwidth, high mobility and multimedia services at this time led to the concept of technology IMS (IP Multimedia Subsystem) that complements the NGN (Next Generation Network) based on softswitch. IP Multimedia Subsystem (IMS) is a telecommunications network architecture based on IP (internet protocol). This technology is one of the interconnect architecture developed by wireless and wireline technologies by offering a variety of multimedia services including voice, video, IPTV, and data. The principle of this technology is to organize a session that arise for each service.Multi-Protocol Label Switching (MPLS) is a method of forwarding data over a network using the information in the label attached to an IP packet. With this type of routing is applied to the MPLS network, expected to be able to deliver enhanced value of QoS on the network.

In this final task will implement IMS technology using software Open IMS with IPTV and VoD services, which will be passed to the MPLS network using GNS3 router. From this implementation will be analyzed from a review of his Quality of service include delay, packet loss, jitter, throughput at the client side.

From the testing and analysis results showed that the use of MPLS can produce a better QoS. It can be seen from the delay improvement using MPLS network for VoD service by an average of 4.458082%, IPTV service at 8.942867% and 1.0182% for VoIP service.

Keywords: NGN, IMS, MPLS, Open IMS, routers, and QoS