

ABSTRACT

The need for real-time communication technology, particularly to support the improvement of the quality of the multimedia packet delivery services is IMS or IP Multimedia Subsystem. IMS technology enables delivery of packet communication efficiently and reliably. IP-based multimedia services that are popular are the Video Conference. Video Conference is able to apply communication in real time and virtual as if it were communicating directly face to face despite being in a long distance. In order for an IMS network has high availability, this final task is implemented GLBP (Gateway Load Balancing Protocol) as a protocol that supports load balancing and backup on the network.

GLBP used in this final task aims to maintain the stability of the system in the network. GLBP has the advantage of load balancing or dividing the traffic when the network is busy and when a failure occurs in the network path then automatically GLBP can backup so the quality of the network still good. This protocol supports the virtual router that is capable of dividing the transmission line becomes swifter packet and equally. Quality of Service parameters to be analyzed in this final task are throughput, delay, and jitter.

QoS measurement results obtained from that network with background traffic 0 and 40 Mbps comply the standards ITU-T G.1010 show delay <150 ms but when the link capacity of 80 and a maximum of 100 Mbps delay > 150 ms. Jitter is still below 1 ms for all test scenarios. Throughput was maintained for GLBP protocol as redundancy so the utility usage in this network link are at intervals of 0.144% to 0.127% for the video conference.

Keywords : *GLBP, Video conference, IMS, Delay, Jitter, Throughput*