ABSTRAK

Tugas akhir ini mencoba untuk menjelaskan konsep dari GLBP, menguji dan menganalisa performansi beban traffic *video streaming* dan mengukur QOS *Throughput, Delay,* dan *Packet Loss* pada jaringan GLBP dengan metode *Load Balancing Weighted* menggunakan *tools Graphical Simulator Network Simulator 3 (*GNS3) dan *Wireshark* di jaringan LAN dan juga Penulis ingin membandingkannya dengan jaringan tanpa GLBP. Untuk pengujian Penulis menggunakan video dengan resolusi 240P, 360P, 480P, 720P dan 1080P dan untuk perbandingan dengan jaringan tanpa GLBP Penulis menggunakan resolusi 1080P. Hasil performansi QOS *Throughput* jaringan GLBP adalah; Resolusi 240P (54,1 *Bytes*/s), 360P (88,3 *Bytes*/s), 480P (89,6 *Bytes*/s), 720P (86,5 *Bytes*/s), 1080P (87,2 *Bytes*/s). Hasil performansi QOS Delay jaringan GLBP adalah; Resolusi 240P (24,1 ms), 360P (15 ms), 480P (14,9 ms), 720P (15,4 ms), 1080P (15,3 ms). Hasil performansi QOS *Packet Loss* jaringan GLBP di semua resolusi adalah (0%). Perbandingan performansi QOS jaringan GLBP dan tanpa GLBP dengan pengujian resolusi 1080P adalah; *Throughput* 87,2 *Bytes*/s (GLBP) dan 62,6 *Bytes*/s (tanpa GLBP), Delay 15,3 ms (GLBP) dan 22,3 ms (tanpa GLBP), *Packet Loss* 0% (GLBP) dan 0% (tanpa GLBP). Hasil *Throughput* jaringan GLBP mempunyai perbedaan yang lumayan signifikan sekitar 24-25 *Bytes*/s jaringan GLBP lebih besar. Hasil *Delay* jaringan GLBP mempunyai perbedaan sekitar 7 ms jaringan GLBP lebih cepat. Hasil *Packet Loss* keduanya sama-sama 0% atau tidak ada perbedaan.

Kata Kunci: GLBP*, Video Streaming, Load Balancing Weighted, Throughput, Delay, Packet Loss*.

ABSTRACT

This final project tries to explain the concept of GLBP, test and analyze the performance of video streaming traffic load and measure QOS Throughput, Delay, and Packet Loss on the GLBP network with Load Balancing Weighted methods using Graphical Simulator Network Simulator 3 (GNS3) and Wireshark on the network LAN and also the author wants to compare it with networks without GLBP. For testing the author uses video with a resolution of 240P, 360P, 480P, 720P and 1080P and for comparison with networks without GLBP the author uses a resolution of 1080P. The results of QOS GLBP network throughput are; Resolution of 240P (54.1 Bytes / s), 360P (88.3 Bytes / s), 480P (89.6 Bytes / s), 720P (86.5 Bytes / s), 1080P (87.2 Bytes / s) . The results of the QOS Delay performance of the GLBP network are; Resolution of 240P (24.1 ms), 360P (15 ms), 480P (14.9 ms), 720P (15.4 ms), 1080P (15.3 ms). The results of QOS Packet Loss GLBP network performance at all resolutions are (0%). Comparison of QB network performance of GLBP and without GLBP with 1080P resolution testing is; Throughput 87.2 Bytes / s (GLBP) and 62.6 Bytes / s (without GLBP), Delay 15.3 ms (GLBP) and 22.3 ms (without GLBP), Packet Loss 0% (GLBP) and 0% (without GLBP). The results of GLBP network throughput have a rather significant difference of around 24-25 Bytes / s greater GLBP network. Results GLBP network delay has a difference of about 7 ms GLBP network faster. Both Packet Loss results are either 0% or there is no difference.

Keywords: GLBP, Video Streaming, Load Balancing Weighted, Throughput, Delay, Packet Loss.