

## ABSTRAK

Kemajuan teknologi membawa kemajuan pada perangkat pertukaran data komputer yang tidak hanya melalui kabel, namun telah berkembang menjadi teknologi *mobile* seperti *wireless*. Teknologi *wireless* sendiri bermacam-macam seperti *infrared*, *bluetooth*, *radio frequency*, *GSM/CDMA*, dan *wireless LAN* (802.11). *Wireless LAN* biasanya digunakan pada lingkungan yang penggunaannya selalu *mobile* atau berpindah-pindah tempat dan tidak ada jaringan kabel untuk penyaluran data. Tipe untuk standarisasi *wireless LAN* juga terbagi menjadi 802.11a, 802.11b, 802.11g, dan 802.11n.

Tugas akhir ini membandingkan kinerja *wireless* 802.11b dan 802.11g pada perangkat *wireless LAN* dan melihat hubungannya dengan *QoS* (*Quality of Service*). *QoS* yang diukur berupa parameter *throughput*, *delay*, dan *packet loss*. Tugas akhir ini diharapkan mampu memberikan penjelasan dan alasan keunggulan atau kelemahan kedua standar *wireless LAN* yaitu 802.11b dan 802.11g. Pengukuran dilakukan dengan melakukan *transfer data* (*Upload* dan *download*) pada kondisi *noiseless* dan *noise* pada ukuran *file* sebesar 25 MB, 50 MB, 100 MB serta pada jarak antara komputer *server* dan *client* yaitu 5meter, 50meter, 75meter.

Dari hasil pengukuran setiap skenario, penelitian ini mengkonfirmasi teori yang menyatakan bahwa kinerja WLAN 802.11g memiliki *performansi* yang lebih baik dari pada WLAN 802.11b, terkait kinerja *throughput*, *delay*, dan *packet loss*.

Kata Kunci : *Wireless LAN, Throughput, Delay, Packet Loss*.

ABSTRACT

The development of technology comes to the era where data transfer is no longer necessary to use wire, in fact it has been developed into mobile technology as in wireless. Wireless technology itself is vary, such as infrared, bluetooth, radio frequency, GSM/CDMA, and wireless LAN (802.11). Wireless LAN is usually used in the environment where the users are usually mobile or dinamicly moving and there is no linked cable to transfer the data. Types to standardize wireless LAN are also divided into 802.11a, 802.11b, 802.11g, and 802.11n.

This final project is comparing the performance of wireless 802.11b and 802.11g in the wireles LAN hardware and seeing its co-relation towards QoS (Quality of Service). QoS that is measured is the throughput parameter, delay, and packet loss. This final project is dedicated to give explanation and reason of both wireless LAN standard 802.11b and 802.11g's benefits and weakneses. The measurement is conducted by doing the data transfer (upload and download) in the noiseless and noise condition in several file sized 25 MB, 50 MB, 100 MB and in the distance of server computer into client computer in 5 metre, 50 metre, 75 metre.

From the result of each scenario's measurement, this research confirmed the theory that state if the performance of WLAN 802.11g has the better performance than WLAN 802.11b, related to the performance of throughput, delay and packet loss.

Keywords : *Wireless LAN, Throughput, Delay, Packet Loss.*