ABSTRAK

Pemanfaatan kemajuan teknologi melalui penggunaan internet diharapkan mampu mempermudah dan meningkatkan kualitas pendidikan. Agar hal ini berjalan dengan efektif, dukungan dari berbagai pihak sangatlah penting untuk mendukung integrasi teknologi komputer dan internet ke dalam kurikulum pendidikan di Sekolah Menengah Kejuruan (SMK). Di SMK Negeri 1 Gunung Agung, meskipun terdapat jaringan hotspot, namun penggunaannya masih menggunakan topologi *Basic Service Set (BSS)* dan belum dioptimalkan untuk mengatur bandwidth dengan efektif. Ini mengakibatkan pengguna fasilitas hotspot harus melakukan login ulang saat berpindah-pindah lokasi.

Metode yang digunakan dalam penelitian ini adalah analisis deskriptif, yang menganalisis kondisi jaringan di SMK Negeri 1 Gunung Agung. Dalam pengukuran *Quality of Service* dan *Realibility, Maintainability And Availabelity RMA*, beberapa parameter diukur, termasuk *delay/latency* (selang waktu pengiriman), *Jitter* (ketidakseimbangan selang waktu antara paket data), *Packet Loss* (jumlah paket data yang hilang), dan *Throughput* (jumlah data yang berhasil dikirim). Penelitian ini menghasilkan rekomendasi yang tepat untuk pengembangan sekolah ini, Hasil penelitian menunjukkan bahwa pada jam kerja, nilai rata-rata *delay/latency* adalah 1 ms, yang mengukur perbedaan selang waktu antara kedatangan paket data di terminal tujuan. Tidak ada paket data yang hilang *(Packet Loss)* selama proses transmisi ke tujuan pada jam kerja.

Kata kunci: Analisis *Quality of Service*, Jaringan, *RMA*.

ABSTRACT

The utilization of technological advancements through internet usage is expected to simplify and enhance the quality of education. In order for this to be effectively implemented, support from various stakeholders is crucial to aid the integration of computer technology and the internet into the curriculum of Vocational High Schools (SMK). In SMK Negeri 1 Gunung Agung, although there is a hotspot network available, its usage still employs the Basic Service Set (BSS) topology and has not been optimized to manage bandwidth effectively. This results in users of the hotspot facility needing to log in again when moving between locations.

The method employed in this research is descriptive analysis, which assesses the network conditions at SMK Negeri 1 Gunung Agung. Within the measurement of Quality of Service and Reliability, Maintainability, and Availability (RMA), several parameters are measured, including delay/latency (time interval of delivery), Jitter (variation in time intervals between data packets), Packet Loss (number of lost data packets), and Throughput (amount of successfully transmitted data). This research provides appropriate recommendations for the school's development. The research findings indicate that during working hours, the average delay/latency value is 1 ms, measuring the time interval difference between the arrival of data packets at the destination terminal. There is no Packet Loss during the transmission process to the destination during working hours.

Keywords: Quality of Service Analysis, Network, RMA.