

ABSTRACT

Quality of Service (QoS) is a fundamental parameter in evaluating ISP network performance. This study aims to analyze the performance of Biznet Internet Service Provider (ISP) network in Bandung City by measuring QoS parameters including throughput, delay, jitter, and packet loss. Measurements were conducted at four different locations in Bandung City over seven consecutive days to obtain comprehensive and representative results. The research methodology employed a quantitative approach, utilizing Wireshark and Speedtest Ookla applications for data collection to ensure accuracy and validity.

The results indicate that the Biznet ISP network overall meets QoS standards based on TIPHON (Telecommunications and Internet Protocol Harmonization Over Networks) classification. The average values achieved were: throughput 60.45 Mbps (excellent category), delay 3.35 ms (excellent), jitter 2.53 ms (excellent), and packet loss 0.3% (excellent). However, temporal analysis revealed network performance fluctuations during peak hours (12:00-17:00 WIB), where throughput dropped to 875 kbps and delay increased to 69.31 ms.

This study demonstrates that while the Biznet network generally shows excellent performance, potential bottlenecks exist during specific hours that require optimization. The research recommends improved traffic management implementation and infrastructure capacity enhancement at critical points to maintain optimal QoS. This study provides significant contributions to ISP network development in Indonesia by presenting empirical data and in-depth analysis that can serve as a reference for providers in improving service quality.

Keywords: *Quality of Service, Biznet ISP, Throughput, Delay, Jitter, Packet Loss, ITU-T, TIPHON.*