ABSTRACT

The internet network in the s Building at Telkom University is crucial for academic activities, but many users experience slow connection issues. This is due to a high number of concurrent users. Therefore, this research was conducted to measure the network quality on the 8th and 9th floors by examining key factors such as throughput, packet loss, delay, and jitter. The study involved monitoring the network using the Zabbix application to identify peak and off-peak hours. Subsequently, data traffic was recorded using the Wireshark application during these specific times. The collected data was then analyzed to assess its quality based on the Telecommunications and Internet Protocol Harmonization Over Networks (TIPHON) standardization, using Quality of Service (QoS) metrics. The results indicate that the network on both floors is actually very stable and reliable. There is very little packet loss or delay, which means the connection is consistent. The main issue lies with throughput. The 8th floor showed relatively stable speeds, with a throughput of 1,589 Kbps during peak hours and 1,603 Kbps during off-peak hours. Meanwhile, the 9th floor exhibited more dynamic performance, with a throughput of 1,274 Kbps during peak hours, which then surged to 6,951 Kbps during off-peak hours. In conclusion, the internet network in the TULT Building is not faulty. The complaints of a slow connection are purely caused by the available bandwidth being divided among many users during peak hours. Therefore, it is recommended that the network administrator implement a QoS management system. The goal is to prioritize essential academic activities, such as access to learning materials and network-dependent applications or websites, to ensure they remain smooth even when the network is congested.

Keywords- ***quality of service*** **(qos),** ***network monitoring*****,** ***simple network management protocol*****,** ***zabbix, network quality***