

## **ABSTRACT**

*The utilization of video conferencing has assumed a pivotal role in the contemporary world owing to its capability to facilitate real-time connectivity among individuals or groups situated at distant locales. The principal advantages are rooted in time and cost efficiency, obviating the necessity for often protracted and costly physical travel. However, the effective employment of video conferencing necessitates a smooth and stable internet network. Hence, it mandates an assessment concerning the utilization of video conferencing applications via the Telkom University Landmark Tower (TULT) WiFi network, with the intention of gauging the performance of these applications when employed by both students and educators. The methodology applied in this study is the observational approach, which permits real-time observations—an indispensable aspect in situations necessitating the observation of measurements and interactions as they unfold, such as data capture employing Wireshark. Measurements were executed under two distinct scenarios. The differentiating factor between the initial and subsequent scenarios lies in the fact that, in the former, video conference participants are connected to the TULT WiFi, whereas in the latter, they are linked to an ISP WiFi network situated in Jakarta. From the results derived from the average throughput parameter values, it can be inferred that the Microsoft Teams application registers the highest average throughput parameter value, specifically 1079.3 kb/s. In accordance with the TIPHON Quality of Service index, this value is deemed satisfactory given that the average throughput value falls within the range of 700-1200 kbps. Subsequently, delving into the analysis of the packet loss parameter, it becomes evident that the Google Meet application manifests the smallest average packet loss parameter value, at 0.002%. Following suit, the Zoom application records a value of 0.0144%, and the Microsoft Teams application demonstrates an average packet loss parameter value of 0.0112%. Aligned with the TIPHON Quality of Service index, all these values are deemed highly commendable as the average packet loss parameter value remains below 3%. Lastly, the analysis of the average delay parameter reveals that, upon examination of the aforementioned table, the Google Meet application showcases the smallest average delay parameter value, at 5.43895 ms. Succeeding this, the Microsoft Teams application follows suit with a value of 6.30805 ms, and the Zoom application presents the highest average delay parameter value of 7.31224 ms. In accordance with the TIPHON Quality of Service index, these values are adjudged as excellent, given that the average delay parameter value remains beneath 150 ms. It is hoped that this research will furnish utility as a point of reference for both students and educators in the selection of a video conferencing application to be employed within the purview of TULT.*

*Keywords: Quality of Service, Application, Video Conference, TIPHON, Telkom University Landmark Tower*