

ABSTRACT

This study aims to analyze the readiness of cable networks in the implementation of ERP (Enterprise Resource Planning) information systems at the Faculty of Industrial Engineering, Telkom University. The implementation of an ERP system requires a reliable network infrastructure to ensure the smooth operation of various business functions, including finance, manufacturing, inventory, and human resources. The method used in this research is Network Development Life Cycle (NDLC), which consists of six main stages: analysis, design, simulation, implementation, monitoring, and management. The focus of this research is on the measurement and analysis of Quality of Service (QoS) which includes throughput, delay, jitter, and packet loss. This research was conducted in three main buildings, namely Building B Cacuk, TULT Building, and Mangudu Building. Data was collected through direct observation, interviews, and the use of Wireshark software for network analysis. Tests were conducted at various time conditions, namely free time, busy time, and medium time, to get a comprehensive picture of network performance. The results show that the cable networks in the three buildings are generally ready for the implementation of the Odoo-based ERP system. The throughput values obtained meet the minimum requirements needed to run the ERP system, with an average value that is quite high both without filter and with Port filter. The delay analysis shows that the delay time is within the limits between very good to moderate according to the TIPHON standard, while packet loss also shows very good results. However, the jitter value obtained is still in the poor category, which may affect the overall quality of service. Nonetheless, the Odoo-based ERP system can still run well as the average ERP system is not sensitive to poor jitter.

Keywords- ERP, Quality of Service, Network Development Life Cycle, Cable Network