

ABSTRACT

ANALYSIS OF WIRELESS AND CABLE NETWORK QUALITY-OF-SERVICE PERFORMANCE AT TELKOM UNIVERSITY LANDMARK TOWER USING NETWORK DEVELOPMENT LIFE CYCLE (NDLC) METHOD

By

Farras Naim

1202180305

There are some infrastructure problems in the Telkom University Landmark Tower building, which still lacks manpower to help troubleshoot the network when an interference happens. The second problem is that the TULT has a closed concept building, which will be an issue for the network stability. The last problem is the lack of information transparency when handling a network problem. In this research, the author uses the NDLC (Network Development Life Cycle) method as a step to solve the problem. The sequence of the NDLC methodology starts from the analysis stage, the design stage, the prototype simulation stage, and the final stage. Based on the analysis of the current wireless and wired network condition, it can be concluded that it is still in good condition, which only requires proper and scheduled maintenance to prevent the internet connection from having disturbances. The current wireless and wired connections are tested during peak and free times by adjusting the lecture conditions with the Hybrid Blended Learning (HBL) learning model, where not too many people use the internet connection from TULT building. Tests on wireless and cable networks during peak and off-peak hours revealed results for the 4th, 8th, 9th, and 18th floors with a very good delay index, a very good throughput index, and a very good packet loss index on all floors. All wireless and wired network test results have a very good index category.

Keywords: Delay; Network Development Life Cycle; Packet loss; Quality of Service; Throughput