

ABSTRACT

Configuration in wireless network is divided into two modes, which consist of infrastructure mode and ad-hoc mode. Infrastructure mode uses access point to connect two computers or more which have wider coverage in a certain coverage area, but with higher cost. Meanwhile, ad-hoc mode does not use access point in connecting computers or device, therefore it is cheaper than infrastructure mode.

In fact, coverage and quality of ad-hoc mode is very limited, but USB WLAN (Unit Serial Bus Wireless Local Area Network) tin antenna as a direction is made to maximize the coverage and the quality of that ad-hoc mode.

This final project measured both of modes (ad-hoc and infrastructure) which included coverage area and QoS (Reliability/Packet Loss, Delay, Jitter, dan Bandwidth) measurement. The result obtained from coverage area measurement reveal that the coverage of ad-hoc mode is 95 meters, relatively close with the coverage of infrastructure mode which is 135 meters. While for QoS value, the result obtained for reliability / packet loss is 0 % with equal comparison percentage with infrastructure mode. Delay ranges from 150 to 400 ms, with comparison percentage between 92%-99% of 100% scale. Small jitter (<30 ms) with comparison percentage between 81%-99% of 100% scale and average bandwidth 11Mbps with comparison percentage is 100%. Ad-hoc mode cost Rp. 200.000,- cheaper than infrastructure mode. Therefore, with the addition of tin antenna in ad-hoc mode configuration, the network performance increased with relatively low cost.

Keyword : WLAN, Ad-Hoc, Infrastructure, Performance