

ABSTRACT

The standard that used for wireless LAN communication system is IEEE 802.11. In 2009 released IEEE 802.11n standard, the standard is expected to provide a throughput value of more than 100 Mbps. Problems that often occur in a WLAN network is the issue of signal strength, signal quality and *user* guarantees to get the service, so the Quality of Service guarantee is a thing to be considered in designing a WLAN network.

In this final project is implemented various configuration access point on WLAN network using IEEE 802.11n standard. This final project based on experimental experiment by using non QoS method to give characteristic of WLAN network designed using Cisco WAP321 access point. The configuration is to change the value of Beacon Interval, Threshold Fragmentation, RTS Threshold, and *Transmit* Power in access point device. The analysis performed focuses on the value of throughput measurement that obtained on the *user* side using wireshark application. Testing is done by direct experiment using 10 laptops as *user* and accessing video streaming service from access point which have been configured according to set scenario.

With the experiments that have been done, the highest average throughput is obtained when the AP are configured by beacon interval 20 ms, RTS threshold 1024 bytes, and fragmentation threshold 728 bytes. The lowest throughput is obtained when non-QoS mode is used while the farthest coverage AP can reach is at 100% transmit power. For the *user*, the highest throughput rate is obtained under *user* conditions contained in main lobe AP antenna with LoS state.

Keywords : WLAN, IEEE 802.11n, *Throughput, non-QoS, RTS Threshold, Fragmentation threshold, Transmit Power, Beacon Interval.*