ABSTRACT

2.4 GHZ AND 5 GHZ WIFI NETWORK ANALYSIS AND COMPARISON USING QOS METHOD

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The purpose of this research is to find out whether network frequency that is being used by certain WiFi network affect the signal strength and data transfer speed that is received by internet users. This research used Delay, Packet loss, and Throughput as the parameter of QoS and by using Axence NetTools as the research tool. The research is conducted in two frequency, 2.4 GHz frequency and 5 GHz frequency at Discussion Area and at the Library. The result of the research is that 5 GHz has a better performance according to TIPHON standard of QoS. The result is as such, 17.25 ms Delay at Discussion Area and 15 ms Delay at Library. According to TIPHON QoS standard, the Delay result is categorized as Very Good. The result of the research using UNIFI AP AC PRO Access Point is as such, 90.25 ms Delay when using 2.4 frequency and 18.75 ms when using 5 GHz frequency. As the result of the research conducted, 5 GHz frequency have a better performance in term of the quality of the network, because of the channel availability, and low interference from other device in the same frequency, lower congestion during high network usage or high traffic and also benefit from MU-MIMO technology from 802.11ac Wave 2 WiFi standard that enable Access Point to send and receive data simultaneously from multiple users.

Keywords : WiFi, QoS, Delay, Packet loss, Throughput