

ABSTRACT

Advances in information network technology are currently developing significantly, one of which is the concept of Software Defined Networking (SDN). Software Defined Networking (SDN) is a new paradigm in designing, managing and implementing networks. This architecture separates the control plane from the forwarding plane which allows the network to be directly programmable. SDN can improve network efficiency and simplify network configuration and resource management. The concept of SDN began to be developed in wireless network technology due to the wide scope of deployment and the need for wireless technology and is called SDWN.

This final project SDWN is implemented using the Mininet-Wifi emulator. To achieve more deterministic network behavior, QoS is necessary to see the reliability of a network on SDWN. QoS is tested based on scenarios such as distance, interference, and the effect of mobility models on the addition of multimedia services Video, VoIP, and Data. The QoS parameters used are packet loss, delay, jitter, and throughput.

In this Final Project, in the scenario of the change in distance the highest throughput value at the closest distance is 10 meters by 3.1 Mbps, Packet loss occurs at a distance of 60 meters and 70 meters by 0.09% and 0.10%, the delay increases with the value the highest is 3,448 ms, and the maximum jitter is 0,697 ms. In the packet loss interference scenario that occurs at all distances with a maximum value of 0.33%, the highest delay at a distance of 70 meters is 3.898 ms, the maximum throughput of sending from two nodes simultaneously is 5.392 Mbps, and the maximum jitter is 0.378 ms. While the influence of the user mobility model by generating multimedia service traffic in the form of Data, VoIP and Video meets ITU-T G1010 recommendations.

Keywords: *Software-Defined Wireless Networking, Mininet-Wifi, QoS.*