ABSTRACT

Software Defined Network (SDN) is a new paradigm in network architecture. The basic concept of SDN itself is to explicitly separate control plan and forwarding plane. The last few years SDN technology has become one of the interesting topics for researchers, the development of SDN which was carried out, one of which was the implementation of the Internet of Things (IoT) devices in the SDN network architecture model.

Mininet-IoT is a development of the Mininet network emulator by adding virtualized IoT devices, 6LoWPAN based on wireless Linux standards and 802.15.4 wireless simulation drivers. Mininet-IoT expands the Mininet code class by adding or modifying functions in it.

In this final project will discuss the performance of the 6LoWPAN device on the internet of things (IoT) network by applying the SDN paradigm and using the Mininet-IoT emulator and the Open Network Operating System (ONOS) controller using the application of the internet active things (IoT) IPv6 forwarding. Performance testing by comparing some of the topology of the addition of host, switch-dancluster.

The test results of the two scenarios tested can be concluded, the through-put value obtained has decreased compared to the value of back-traffic traffic. while the packet loss value obtained is on average above 15%. jitter value, delay, throughput, and packet loss are still in the category of sufficient, good and very good based on TIPHON and ITU-T standards.

Keywords: *Software Defined Network, Controller, Internet of Things*