

## ABSTRACT

*To achieve an internet with high availability and reliability, needs two or more data paths so that by the time process of sending data can be faster and couldn't give rise to the existence of a large delay. However, at the moment there are two or more lines on a system is not guarantee will get a good quality of the network. There are many trails allow the occurrence of uneven traffic distribution even on traffic buildup occurs. To avoid this, author used Load Balancing.*

*On this system, implemented load balancing in network architecture Software Defined Network using Floodlight Controller. The evaluation is done by measuring QoS ( Delay, Bit Rate, Packet Rate, Packet Success Rate ) while sending various traffics through the network such as UDP Flow, VoIP, DNS and Telnet. The conclusion, performance of load balancer is work well, because the results after load balancing is better than before load balancing. Which is the value of delay after load balancing is decreased about 30% - 50% compared to before load balancing, also the values of bit rate, packet rate dan packet success rate after load balancing is increased about 10% - 30 % compared to before load balancing.*

**Keywords** : *Software Defined Network, Floodlight Controller, Load Balancing, Load Balancing Performance.*