

ABSTRACT

Software-Defined Network (SDN) is a term that refers to a new concept or paradigm in designing, managing and implementing networks, especially to support the needs and innovations in this field which are increasingly complex. Aruba VAN Controller provides a center control in an SDN network architecture in centralized Internet network management on pages web using the programming language Java. The application of Virtual Local Area Network (VLAN) has the function of limiting broadcast traffic from a host, so that it can only send data packets to the same VLAN ID.

This study analyzes the parameters QoS (Quality of Service) on an SDN network built using Aruba VAN Controller. The VLAN method is expected to provide the best path in sending data packets. The topology used is a custom topology, where there are 4 Hosts and 2 Switches. Each Switch is connected to the controller Aruba VAN.

In the testing that was done found a decline in the number of packets that can be sent (data transfer) is not significant and throughput by 50 kbp /s. The analysis test QoS on Aruba VAN Controller got the value throughput largest on VLAN 10 of 565,425 kbp/s and VLAN 20 of 593,823 kbp/s. In the parameter, delay the value delay smallest in VLAN 10 is 74,911 ms and VLAN 20 is 112,505 ms. In the parameter, jitter the value jitter smallest in VLAN 10 is 4.660 ms and VLAN 20 is 11.011 ms. In the parameter packet loss value of packet loss generated in the second VLAN ID to get the same value of 0%.

Keywords: *Software Defined Network, Aruba Van Controller, VLAN, QoS.*