ABSTRACT

Cloud computing has become the belle of IT trend in recent years. Both small-scale enterprise IT and data center large scale have adopted this technology. Nothing could be more of this technology has been transformed into an important part of the IT industry. Because it can minimize IT infrastructure operation, this technology also proved to ease the cost to be incurred by the company in general [1].

The key technology in cloud computing is virtualization. Virtualization is a concept in which a program or operating system (OS) as if it possessed the hardware itself. While the virtual machine (VM) is responsible for running the OS is like using a real machine. Generally, each VM is on a host, so they share physical resources including a network connection. Network virtualization connects each VM that is built into a virtual switch port. However, despite the implementation of virtualization make the system more simple, there needs to be between VM network administration, because the hypervisor only serves as a bridge. Open vSwitch virtual switch as an alternative which is quite popular these days among developers the cloud, it can be a solution for managing inter-VM traffic with the outside world communications. In addition to open-source-based, Open vSwitch is suitable for multi-server implementation of virtualization and accommodate the dynamic end-point problem.

From the test results it can be concluded that the function of isolation VLAN and QoS rate-limiting with OVS can isolate the inter-VM traffic and differentiate bitrate between tenants. OVS is proven to provide better processor utilization than without using OVS. OVS give a better processor utilization amounted to 18.86% at the time of the TCP Send and Receive 11:09% on TCP. OVS also can provide a better processor utilization in the delivery of UDP packets send by 27.27% and 19.66% on UDP Receive.

Keywords : *open vswitch, virtual switch , virtual network, virtualization, VLAN isolation, QoS, virtual machine*