ABSTRACT

The use of virtual architecture network is easier and more beneficial than physics architecture. One of abilities of virtual architecture is overcommit. Overcommit is a hypervisor characteristic which allows a server to have more resources than its physical resources and allows some Virtual Machines (VM) to share memory and core that are provided by physical host. This case definitely saves the resources, but resource-sharing doesn't always bring benefits, each VM's performance possibly decreased and causing crash risk if other VMs are busy and over-worked. In this case, overcommit is deployed on openstack with one controller and one compute node on Google Cloud. Overcommit is set for ratio 1:1, 1:8, 1:16, 1:24 with background load on each scenario which are 0%, 50%, dan 100%. The result of this research, TCP troughput decreased 78% from 1:1 ratio to 1:24 ratio with 0% load, decreased 99% on same ratio with 50% and 100% load. UDP throughput decreased 63% from 1:1 ratio to 1:24 ratio with 0% load, decreased 98% on same ratio with 50% and 100% load. For jitter result, the peak is on 1:24 ratio with 50% load and on and the lowest jitter is on 1:1 ratio with 0% load. Packet loss has peak which is 93.2% on 1:1 ratio with 0% load and the lowest number is 64.17% on ratio 1:24 with 100% load. CPU benchmarking has the lowest time number on 1:1 overcommit ratio with 0% load and the highest time number on 1:24 overcommit ratio 100% load.

Kata Kunci: Overcommit, Cloud Computing, Openstack, Virtualization.