

ABSTRACT

Virtualization technology is widely used in cloud data centers and IT infrastructure today. One of the key technologies for server virtualization is live migration of virtual machines (VMs). Live Migration is the movement of virtual machines from one node worker machine to another worker node machine with a continuously running state. When done correctly, then the process takes place without a noticeable effect from the point of view of the end user. This technology allows VMs to be moved from one physical host to another while minimizing service downtime. this is a problem related to the topic of this final project. In this final project, research is carried out related to analyzing the performance of live migration on VMs in OpenStack and analyzing the impact of these stresses and failures on the performance of live migration VMs. OpenStack is a set of software for building and managing cloud computing platforms for both public and private clouds and is a collection of open source software projects that provide Infrastructure-as-a-Service (IaaS) solutions through a series of interrelated services.

In this final project, it is discussed about how live migration performance using OpenStack between 2 servers connected to ceph storage, between VM one (controller-compute) and Vm two (compute) storage is created that can read both nodes from openstack because the openstack instance to be used will use volumes and the instance volume cannot use local storage, therefore, storage is built between vm one and vm 2 to be able to migrate between virtual machines. then in VM 1 in the config some openstack components such as keystone, glance, nova, neutron and horizon because in vm 1 it is created as controller-compute and in vm 2 in the config only the nova and neutron components because in vm 2 it is created as compute. after openstack can be built then on the openstack instance is built a website to test the live migration feature on openstack that has been built then test the performance of the infrastructure based on migration time parameters, downtime and data transfer size on virtual machines and test parameters on Quality of Service (QoS) especially Delay, Throughput, Jitter and packet loss. Then analyze it. For the test scenario in live migration, there are 3 scenarios, namely live migration testing of websites on online video, offline video and without video. For the results obtained,

the conclusion can be drawn, namely that the larger the size of the data transfer, the greater the downtime and migration time.

Kata Kunci : *Network performance, Virtualization , Live Migration, Openstack, Quality of Service (QoS),*