ABSTRACT

Server consolidation using server virtualization is one of the solution that allows a physical server to run multiple virtual machines that each machine have an operating system and application programs themselves. Implementation of server consolidation using virtualization technology can improve the availability, efficiency, and ease of maintenance and recovery process.

This thesis attempts to explain the analysis in the implementation of virtual servers that done on a case study of PT. KITech which aims to improve the performance of data center into a system of high availability and efficient data centers. Infrastructure built with Hyper-V software which provides superior features of live migration and Snapshot. Live migration is a feature that is used to transfer (migrate) a virtual machine into a different host without any downtime feels. Hyper-V enables developers to easily test a distributed server application using multiple virtual machines on one physical server. The Snapshot feature can easily restore the virtual machine back to a previous state, if the application under test does not suit your needs.

From the results of testing on the system that has been designed and implemented, live migration does not cause any significant downtime so that maintenance can be done anytime with availability of 99.993% - 99,9993% per year. This means the system is high availability. Then the efficiency of time for test and development environment, data center system is more efficient 86.67% - 93.41% of the time needed to perform system recovery with the use of snapshot feature when compared to data center systems without virtualization.

Kata-kata kunci : Hyper-V, *Live Migration*, *Snapshot*, *Virtual machine*.