

Abstract

A virtualization technique is the creation of a virtual version of a resource. Docker containers and virtual machines are the type of virtualization techniques currently present, both of these types of virtualization techniques are already widely applied to cloud services. Virtualization techniques can also be done by computer clustering to add performance in order to serve a higher number of user requests to a server. But even though computer clustering has been implemented into these types of virtualization techniques sometimes system performance suddenly becomes very slow due to overload or even until the webserver cannot be accessed because A user who accidentally performs a DDoS attack against the server. These problems often occur and can make a loss on the party that makes the server because the server is not accessible by the user.

Thus, to see the performance of the virtualization technique done by computer clustering, in this research is implemented clustering implementation of the virtualization technique of Docker container and virtual machine (VirtualBox and KVM), hereinafter DDoS attack that serves to overload the server. The purpose of this comparison is to see the performance of each type of virtualization.

In Docker container obtained results of CPU performance of 36.8% - 77.2% and 20.4% - 46.2% by using clusters, in VirtualBox obtained the result of CPU performance of 39.2% - 82.6% and 5.5% - 27.5% using clusters, in KVM obtained CPU performance of 14.8%-38% and 8.4% - 28% by using clusters. Of all performance results can be deduced the lowest CPU usage obtained using KVM, but in handling the Slow Post-HTTP Request DDoS attack a Docker container is superior and can handle DDoS attacks with a large 400 package on Host and can have all DDoS attacks on the cluster.

Key Word : Performance, Docker container, Virtual Machine, Computer clustering, and DDoS.