

Abstract

The use of IPv4 addresses has entered its limits and the need to change to the IPv6 address is mandatory. But the transition can not be done in a short time and at the same time globally, so that it will cause problems when connecting to network that is still using only IPv4. There are two methods that can deal with this problems, namely NAT64/DNS64 and Dual Stack with NAT44. Both of these methods can provide access to IPv4 networks from IPv6-ready network, but with a different principle. In this study, two methods is compared by their performance based on DNS lookup time, ICMP and UDP round trip time, TCP connection time, packet rates, CPU and memory utilization parameters. After the experiment, it was found that NAT64/DNS64 only performs better on DNS lookup time, for other parameters, the Dual Stack with NAT44 method still show a better performance. In addition, this study showed that the performance mentioned above will have an effect on communication using HTTP protocol.

Keyword: IPv6, NAT64/DNS64, Dual Stack, NAT44, IPv6 Transition Methods, HTTP.