

ABSTRACT

IP address is a very important part in computer network. It plays role as a protocol in TCP/IP network. Until now, the version that was generally use is IP version 4 address (IPv4). This version has address capacities more than 4 billion (4.294.967.296 to be precised) that can be use by host or user in computer network.

Due to the rapid development of technology, the utilization of computer are very common in the world generally, and in Indonesia particularly. Of course, internet connection is a compulsion for a computer user nowadays. Because of that condition, it is predicted that IPv4 will run out of capacities to contain the the user in the future. In order to take care of the problem that will occur in the future, IP version 6 was created. This version has a lot more capacities than the version 4 had that can be use by host or user in the future.

In this final task, a simulation will be made in OPNET modeler 14.5 to observer the WiMAX network performance by comparing IPv4 and IPv6 for video conference aplication. The parameter that will be observed are delay, jitter, throughput, and packet loss.

The conclusion that can be obtain after the simulation was implemented that the network which using IPv6 has better performance in all paramater that observed. And WiMAX network support IPv6 implementation very well in all scenario condition which are simulated.

Key word: IPv4, IPv6, WiMAX