

ABSTRACT

Nowadays internet is very improving and develops. In using internet, we use Internet Protocol version 4 (IPv4). But, this format has become empty because a lot of people use it. As the solution it's created Network Address Translation (NAT) to solve this problem. But this method does not stay long time because the internet users become increase each time. Because of that begin the migration from IPv4 to Internet Protocol version 6 (IPv6), it because IPv6 has a lot of IP addressing allocation.

But, by created IPv6 technology there is a new problem. The problem is IPv6 can not integrate directly with IPv4 existing network. It is because difference in addressing format, header format, and command in operating system between of both. Therefore we need a transition method to connect IPv6 with IPv4.

In this final task, it's a network which describes condition of IPv6 network that connected with IPv4 in NAT use Teredo transition method. In this final task will show the mechanism of Teredo and then analyzed the testing of teredo mechanism by sending data of video steaming with some variants of bit rate and background traffic. The target is to know performance of Quality of Service (QoS) use parameter delta, jitter, packet loss, and throughput. In this final task, also analyze about server performance by looking CPU Utilization.

Result of the test is generally sending data via video streaming using Teredo transition method has good quality, show by one of the result test that delta is not more than 23.88653851 ms and packet loss 0.087 % for test using bit rate 16 kbps and background traffic 80 MBps.

Keyword: IPv4, IPv6, NAT, Teredo, video streaming, Qos