ABSTRACT

Needs of the Internet Protocol address increase rapidly while the IP address which now exist, IPv4, come to an exhausting phase. In the near future, IPv4 would be occupied and repalace by IPv6.In the transition phase, we need some mechanism to connect IPv4 network and IPv6 network. The basic mechanism of this phase, such as dual stack, tunnelling, and translation. One of the tunnelling mechanism is Tunnel broker. Tunnel broker is a one of the the interconnection mechanism for IPv6 host through the existing IPv4 infrastructure. Tunnel Broker is a service that give IPv6 address to the IPv4 host, it makes the host connect to the IPv6 network through the IPv4 infrastructure.

In this final project, tunnel broker has been implemented for the IPv6 connection through the IPv4 network. Hence, the IPv6 over IPv4 network will be compared with the network with the IPSec configuration on it. Furthermore, the writer test the network to acknowledge the quality of service and to know the encryption process from the IPSec protocol.

From the test, it can be concluded that the IPSec protocol can be implemented on tunnelling IPv6 over IPv4. It can be seen on the packet data that appear on wireshark program. But then, it decrease the quality of service of the network. It caused by the addition of IPSec header and the encryption process.

Keywords : IPv6, tunnel broker, IPsec, IPv6 over IPv4