Abstract

Nowadays, the amount of internet user is increasing significantly. It's caused by increasing needs to get information using internet. VoIP is one of method to get audio information on real time trough IP networks. VoIP is becoming very important application in which will coexist on IP networks that is transitioning from IPv4 to IPv6. The transmission of VoIP is by unsecure public networks; so that VoIP needs security supports to pass the unsecure public networks.

VPN is one of method to support the VoIP transmission; by using VPN it is possible to make a private network through the public network like internet. Adding VPN could be the best solution to secure VoIP connections.

In this final assignment, VoIP will be building on IPv6 architecture by using VPN based on IPSec. SIP will be the VoIP protocol and SER will be VoIP server. The codec that will be use in this final assignment are G.711 and GSM codec because both of them are free license codec.

The final result of this final assignment will be comparison of VoIP performance between G.711 codec and GSM codec and the final result still on the standard of ITU-T G.107 even though G.711 codec have better result than GSM codec does.

Keywords: VoIP, VPN, IPv4, IPv6, IPSec, SER, Codec G.711, Codec GSM