ABSTRACT

VoIP (Voice over Internet Protocol) is a technology that passed voice communication through packet network infrastructure. But, packet network infrastructure also has volatile security aspects, so it is needed a security system which can keep VoIP communication security.

In this final task with titled "Security Effect Analysis of IP Security (IPSec) Implementation on IPv4-IPv6 Network Interconnection for VoIP Service" writer is building a network which use IPSec protocol on IPv4-IPv6 network interconnection use GRE tunneling transition mechanism for VoIP service. And then, she did sniffing test between Cisco router gateway to know packet encryption and quality service test to know IPSec effect to the quality service.

From the test was concluded that IPSec security protocol successfully be implemented on GRE tunnel interfaces. It is proved with encrypted data packet that changed between User. So, sniffer couldn't further action such as modified voice packet or relaying voice packet. But, this action give the effect to network quality service. It is causing decreased network performance that caused overhead, overhead is addition IPSec header. Also caused packet encryption process before packet was send so needed longer time to sent packet.

Key Word: IPSec, VoIP, IPv6, IPv4, GRE, Interkoneksi, *tunnelling*