

ABSTRACT

Internet is a public network that operate openly to every people, but with the development of internet application . User need a protected network from unauthorized people .*Virtual Private Network (VPN)* is one of the solution to protect sending data in internet . One kind of the *VPN* that usually uses is *VPN based IPsec*. internet application that trend right now is *IPTV* that a method to sending TV broadcast in internet.

In Final project "*Analysis Performance IPTV in VPN Network based IPsec in Tunnel Mode* " will be made analysis of implementation *IPTV* in *VPN* network in *IPv4* network . The parameter that will be analysis such as the effect of used different encryption mode to the performance of *IPTV*, using different *IPsec* mode in tunnel mode, try to sniffing the sending data process in non *VPN and VPN* network.

Based on the skenario, we get the result such as: *Delay* interval range from 48,26 ms to 8,76 s. *Delta* interval range from 13,64ms to 19,09 ms. *Jitter* interval range from 0,06 ms to 35,26 ms. *Throughput* interval from 0,62 to 0,86 Mbps. *Packet loss* interval range from 0 % to 13,78 %. *MOS* score interval from 3,3 to 3,4 . bese on the result we can be conclude that implementation of streaming live TV in *VPN based IPsec* does not decreas quality performance streaming *IPTV*. We can see from the result from the measure parameter such as *delay,delta,jitter,throughput, packet loss dan MOS*. Increase of the parameter happen because of measurement used background trafik approach the maximum bandwidth of the network. So from the result from the parameter used above, we conclude that we can implement *IPTV in VPN based IPsec*

Key word : *VPN,IPsec,IPTV,QOS,IPv4*