

Abstract

Along with the development of technology, multimedia services have been developed on the Internet, one of the VoIP service. VoIP technology is very advantageous because it uses IP-based network that already has a strong network in the world so that the cost to make calls is much more efficient than using an analog phone. But has the disadvantage that VoIP security is not guaranteed. Because IP-based, so anyone can sniffing and recording a VoIP data. From this came an idea about how to secure data without reducing the performance of VoIP VoIP network itself.

One way to overcome this is by applying the tunneling VPN (Virtual Private Networks). VPN itself has been known as one of the reliable methods in dealing with network security issues, especially for the delivery of critical data. To implement that thought there was made a VoIP system over the VPN. Bagimana then analyzed the influence of VoIP QoS performance before and after using the VPN.

In this thesis will use three kinds of methods, namely SSL VPN (OpenVPN), L2TP (IPsec VPN), PPTP and with measurements of the delay, jitter, and packet loss. From the results of the test results are obtained that have been made using a PPTP VPN tunneling for better QoS. This is because the key bits used in PPTP 128bit while the IPsec and SSL for 256bit.

Keywords: VoIP, VPN, SSL, L2TP, PPTP, and QoS.