ABSTRACT

The continued development of business processes and needs are increasing rapidly that cause a method of exchanging information in easy, fast and secure. Data communication on the internet does not guarantee the privacy, since internet networks connects all users. Therefore created a VPN, which is a method for connecting two or more different sites so that they can exchanging information through internet privately.

L2TP/IPSec VPN and OpenVPN are examples of VPN that has been developed at this time. L2TP/IPSec VPN using L2TP tunneling protocol which is the development of PPTP from Microsoft and L2F from Cisco, for security L2TP uses IPSec for security protocol. OpenVPN is an open source software that implements the VPN, OpenVPN uses SSL/TLS for security mechanisms. In general, companies use router as a gateway to connect local network to the internet network, this is because the router can performs setting up to level of IP. Mikrotik router is one of the router that supports L2TP, IPSec, and OpenVPN.

By using Mikrotik router that implements L2TP/IPSec VPN or OpenVPN, 2 different LANs can be connected in order to carry voice or data communications. Eavesdropping in L2TP/IPSec VPN and OpenVPN are imposible. In VoIP L2TP/IPSec is better than OpenVPN in terms of jitter and delay, while OpenVPN is better than L2TP/IPSec in terms of throughput and packet loss. In FTP OpenVPN is better than L2TP/IPSec in terms of throughput,RTT, and TCP retransmission.

Keyword : VPN, L2TP/IPsec, PPTP, L2F, OpenVPN, SSL/TLS, gateway, IP, LAN, RTT, TCP retransmission