

ABSTRACT

Telephony is a technology that connect sound electronic transmission, or other information which will be transmitted into two different place through telephone. The telephone consist of speaker, transmitter and receiver.

Voice over Internet well known with IP telephony. Generally, VoIP is described as a system that use Internet network to transmit sound data packet from one place to another place and use IP protocol. In fact, VoIP more focus to use Internet in order to send sound data packet from one place to another place

Bandwidth on Demand is a data communcation method to provide additional capacity in a link so it can accommodate increasing bandwidth traffic data. Bandwidth on Demand is also called as dynamic bandwidth allocation or load balancing. Protocol that is used in VoIP & BoD technology will be developed to increase the performance of QoS. One way to increase network performance is by using MPLS. By using this protocol can increase the performance of QoS by reduce delay, jitter, packet loss, and increase throughput.

The result in this simulation found some performance for user Wired MPLS. Delay user LAN (7.6678 ms) , packet loss 1.005% - 9.082% , throughput 93.021 Kbps and for non-MPLS (Distance vector) delay user LAN (9.7536 ms) ,throughput 88.3624 Kbps, packet loss 2.58% - 14.207 % . BoD application delay MPLS (5.735 ms) , packet loss (1.277% - 9.082 %) throughput 97.0246 Kbps and for Distance Vector mean delay (9.3956 ms) throughput (85.0019 Kbps), packet loss (8.4675% - 12.07%).