

ABSTRACT

The development of communication services at this time is very quick and fast. In the development of communication services are increasingly demanding quality of the available network capable of supporting an increasingly diverse range of services that brings a variety of traffic such as voice, video, data and real-time applications in various size packages. To support and ensure the feasibility and quality of a communications system needs to do an assessment of the QoS (Quality of Service) networks.

IPTV is a digital television service that is passed, or utilizing an IP network. IPTV is one of the real-time applications are very sensitive to delay and jitter and require large bandwidth for application services. IP networks are used for this IPTV service is best effort. With MPLS technology that combines the functions of the layer-2 switching and routing as well as the addition of a VPN and features fast reroute, hopes to rectify that and ensure the level of QoS (delay, jitter, packet loss, and throughput) in IPTV services so that services can be put to good use and steady.

In this final project will be the implementation of IPTV applications on MPLS-VPN with fast reroute feature with a simple topology using the network emulator, which is GNS3. Of implementation will be carried out analysis on the QoS of IPTV services delivered over an MPLS-VPN network by changing the parameters of the existing background traffic.

From the results of emulation is done in this study found that MPLS VPN with fast reroute is able to maintain better QoS value for the link failed and no background traffic. This is evident from the results of delay, packet loss, jitter and throughput is measured when there is background traffic and links failed whose value is better than MPLS without VPN and fast reroute.

Keyword: IPTV, MPLS, MPLS-VPN, fast reroute, delay, jitter, packet loss, throughput