

ABSTRACT

Multimedia on demand must be to consider necessary to development for digital transportation and high bandwidth. But, it must to build new infrastructure with the high cost, although truly it's very economical if we look the technology side. VDSL (Very high bit rate Digital Subscriber Line) is one of x-DSL technology for better high speed data transfer and high bandwidth. VDSL comes with two versions, symmetric and asymmetric. VDSL configured dependent on demand, VDSL has 13Mbps – 52 Mbps for downstream and 1.5 Mbps – 2.3 Mbps for upstream.

In the core network, MPLS development to decrease the complex forwarding mechanism in IP based network. MPLS combining label swapping mechanism in layer 2 with routing in layer 3 for fast sending packet.

In this final project, I try to analysis performance of VDSL user for Wired-LAN and Wireless-LAN with MPLS backbone. The traffic that implemented is VoIP, video and data. NS-2 software is used to configure the network. The parameter of QoS performance likes as throughput, packet loss, delay, jitter and link utility.

The result in this simulation founded some performance for VDSL user Wired-LAN that is Mean Delay 4.2 ms, Mean Jitter 0.48 ms, Mean Throughput 114.15 Kbps, Packet Loss 12.91% and Link Utility 65.54%. For user VDSL Wireless-LAN founded Mean Delay 4.29 ms, Mean Jitter 0.48, Mean Throughput 106.86 Kbps, Packet Loss 12.93% and Link Utility 61.37%.