

ABSTRACT

Nowadays, mostly of internet networking systems are using QoS best effort, which is equally applying for every kind of packet data service with same grade. Though that it needs a better QoS to serve different packet data such as audio and video. Absolutely to support that kind of service, it needs great bandwidth management mechanism to guaranteed enough resource to get better QoS.

This final task will implemented IPv6, because can ascertained that the IP before IPv6 are lacking of. One of IPv6 Addressing method is multicast procedure, which is expected the performance of router can be optimized. With MPLS backbone the routing process will be better comparing with without it. With MPLS routing process the destination address are already determined with label swapping.

Multimedia application that being used is streaming to analyzed the audio and video application. Both are usually applied as the development of networking. With IPv6 multicast with MPLS backbone can increase the QoS for multimedia application.

Keyword : IPv6, multicast address, MPLS (*Multi Protocol Label Switching*), QoS (*quality of service*)

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