
ABSTRACT

PT. Telkom as one of company of telecommunications service provider has to gives the best service for their costumers. To reach that goal, then required service improvement from PT. Telkom it self. One of the way is to using MPLS system in their backbone network. Relate to that, it is necessary to analyze about the quality of service in their network

Multi-protocol Label Switching (MPLS) is a method of forwarding data through the network by using information in label that attached at IP package. MPLS simplify routing package and optimally path selection that pass by core network.

For best QoS implementation at MPLS network with the most efficient network architecture, the most compatible queue system and optimal routing pattern is needed.

In this final projects, writer compare the existing queue method at MPLS network which is FIFO (First in first out), WRED (Random Weighted early detection), and CBQ (Class Based Queue) with case study at PT Telkom MPLS backbone network to get best QoS using NS-2 simulation software.

From simulation and analysis at this Final Projects, it can be concluded that when the simulation conducted without background traffic, then the result of QoS from the three queue methods that used is same. But when the simulation conducted with background traffic then the best QoS result is shown by WRED queuing method.

Keyword:

Multi Protocol Label Switching (MPLS), Quality of Service (QoS), System Antrian, Network Backbone