ABSTRACT

Multi Protocol Label Switching (MPLS) is a data forwarding method through a

network using label information wich is assigned to IP packet. Unfortunately IP

network has a serious weakness in deploying Qality of Services (QoS). QoS architecture

wich could be used is Differentiated Services (DiffServ). DiffServ and MPLS are

complementary techniques wich could be deployed in IP QoS network. DiffServ

provides scalable QoS mechanism meanwhile MPLS provides traffic engginering and

routing technique wich optimizing network resources. Services provider will be able to

provide various class of services with QoS guarantee using MPLS QoS to it's costumer.

This Final Project explains DiffServ, MPLS and the both combination to

optimizing QoS level. The Problem wich will be observed are how to implemented QoS

with DiffServ architecture and analyze how it could improve QoS level on MPLS based

network Qos Parameter used is provided by ITU-T. QoS parameter is obtained by using

simulation (Network Simulator) and observation using Network Management System

(NMS) directly on MPLS based network in this case MPLS network in PT Telkom.

This research shows that in PT Telkom's MPLS based network deploying

DiffServ provides good characteristic on latency and packet loss and fulfills good

quality requirement for several class of traffic.

Keywords: mpls, quality of services, differentiated services

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