

Abstract

Nowadays, communication using computer network become rise. Because of that, there are many development of handling network problem that often occur in a computer network. That's to improve the network performance. One of the problem of computer network, especially in TCP protocol is the occurrence of congestion. Congestion avoidance is very important because it can give high effect on performance quality of computer network.

Active Queue management (AQM) is one of congestion avoidance mechanism that can be applied. In this final project, writer develop the implementation and testing one of AQM scheme called Proportional Derivative-Random Early Detection (PD-RED) for avoid congestion. Then compare it with preexisting AQM called Random Early Detection (RED). Performance of this AQM is measured from queue length, delay, throughput, and packet loss rate. Writer use Network Simulator version 2.31 to build the simulation for implementation and testing this scheme.

From the simulation result, performance of congestion avoidance for TCP network by applying PD-RED better than RED parameter result in terms of packet loss rate and throughput. But in terms of delay parameter, PD-RED worse than RED for avoid a congestion.

Keywords: PD-RED, *throughput, delay, packet loss rate*