ABSTRACT

Congestion control algorithm is an algorithm that works to prevent and handle congestion. Congestion control algorithm nowadays has become datacenter networking purposes. With the congestion control algorithm can handle any problems that exist in the datacenter of which is the incast, queue buildup, and buffre presure. By preventing the such problems will have an impact on the network performance, thus providing the throughput is high, the value of delay, jitter and packet loss are low. From some of the impacts described the requirement datacenter. To solve the problem was proposed congestion control algorithm to network datacenter include a Datacenter TCP (DCTCP) and Deadline-Aware Datacenter (D²TCP)

This final project implementation datacenter TCP (DCTCP) and Deadline-Aware Datacenter (D²TCP) by the characteristics of changes in bandwidth and the number of servers using network simulator 2. After doing the simulation analysis of the results of the simulation has been done on the testing parameters that have been determined that the throughput, delay, jitter and packet loss.

The results show that the performance of D²TCP is superior compared to DCTCP. Both of these protocols has increased delay, jitter, and packet loss on the condition of the increasing number of servers. Increasing the value of delay, jitter and packet loss also happened in a large decrease bandwidth, but the test results in the scenario of the changing bandwidth on the bandwidth ratio is one in four indicating the packet loss increases inversely proportional to the value of delay, and jitter. Improved optimization D²TCP also shown in the simulation based on a real datacenter topology, providing higher throughput value, and the value of delay, jitter and packet loss is lower.

Keywords: congestion control, datacenter, DCTCP , dan D²TCP.