ABSTRACT

The development of technology nowadays makes it easy for many people to obtain information quickly and accurately. Not only it is a text or picture information, but it can also be multimedia information. One of the services that is frequently accessed to obtain information is video-streaming. Video-streaming service enables us to obtain information without having to download it first. However, this service is not really perfect yet because some delay may happen in the process of accessing the information. Therefore, it is really important to improve the quality of this service so people can enjoy this service better.

One way to make this video-streaming service better is to use a better streaming protocol. One of the protocols which is used for video-streaming is Datagram Congestion Control Protocol (DCCP). DCCP which is the developing of User Datagram Protocol (UDP) in handling congestion works by using bidirectional-unicast sending pattern on datagram packet which is adjusted with congestion level on network.

In this thesis, the simulation is carried out by using Network Simulator 2 to know the performance of DCCP. With the influence of different number of users, that is, 5 users, 10 users, and 20 users, this is the result of the simulation (in order of number of users): delay (0.656, 0.398, 0.384), packet loss (0.04%,0.13%,0.06%), throughput (422.14 kbps, 397.71 kbps, 395.68 kbps). Besides, simulation is also carried out with the influence of bitrate change, which results in delay 4.98, throughput 4507.07 and packet loss 0.03%.

Keywords: DCCP, Congestion Control, Video-streaming, Network Simulator 2