ABSTRACT

Technology has developed in the world of communication, one of them is data communications. In other hand, needs in the Internet-service has increased from just text information to a service that provides more images, video and audio. It changes the composition of traffic on the internet. In addition, the access need is change from urban area to communication between the islands.

DVB (Digital Video Broadcasting) is one of the solutions to resolve the issue. This is because the DVB provides access to data with global coverage. Satellites can reach the region or even inter-island communication.

Study of the DVB network performance needs because the changes in the composition of traffic that that merge video and internet services. In this *Tugas Akhir*, we simulate and analyze of QoS in DVB network. Analyses the simulation scenario are buffer changes, background traffic changes, satellite link bandwidth changes and the source rate changes. QoS performance parameters are throughput, packet loss, delay and jitter. Results that expected is to know the queuing method that most suitable for a combination of traffic and generate the best system in the length of buffer, background traffic, satellite bandwidth and rate server for video and internet traffic.

A result of simulation and analysis is SFQ method has good performance in terms of delay and jitter when compared with FIFO and DRR. The best system for the merge of video and internet services are 1000 packets for buffer length, bandwidth satellite links are kept up to 40 Mbps and the maximum reduction is 25% which is 30Mbps, the server rate is possible in the range 4 Mbps to 6 Mbps, so it can send 8 channel of video. The queue mechanism that is most suitable is SFQ because has the minimum delay and jitter.

Keywords: DVB (*Digital Video Broadcasting*) , *QoS* , FIFO, DRR, SFQ.