ABSTRACT

Internet Protocol version 6 (IPv6) is designed to assist in improving the user or users, new applications and services available. Different types of applications have different expectations as well, so as to demand better QoS guarantees as well. Applications such as voice and video communication form is very sensitive to delay and jitter. To fix in this case the IPv6 needed a method that can control the Quality of Service (QoS). Among them is the application of the method Differentiated Service (DiffServ), which can distinguish and treat packets differently based on the priority of each service class.

In this final, was built with IPv6 added DiffServ networks and are expected to know how big the influence of an IPv6 network with DiffServ added to the IPv6 network without using DiffServ.

From conducted implementation result showed that the use of DiffServ can produce a better QoS. Judging from the results of throughput, delay, packet loss, and jitter. DiffServ method can stabilize the throughput regardless of background traffic is used because the bandwidth is determined from the beginning to the service of voice, video and data services but to increase by 18.739 %, repairing packet loss up to 34.22403 %, 7145 %, 39.49 % for voice, video, and data , minimize the delay until 0.36 %, 2128 % for voice and video but the jitter that according to data obtained larger 15.11 %, 9.33 % for voice and video.

KEYWORDS: IPv6, QoS, DiffServ ,delay, jitter, packet loss, throughput