

## **ABSTRACT**

Quality of Service (QoS) is an important thing to consider in a communication system. Many considerations in getting a good value and quality on the network. Procurement of large bandwidth is one alternative, but it is becoming ineffective because not constantly having huge traffic value. Therefore, to improve the network performance to do well as between other differential service (DiffServ), reservation protocol (RSVP), multi-protocol label switching (MPLS), and the use of routing management.

Multi Protocol Label Switching (MPLS) is a method of forwarding data over a network by using the information in the label attached to the IP packet. With this kind of routing is applied on MPLS networks, are expected to provide an increase in the value of QoS on the network.

In this Final Project conducted research on performance comparison using MPLS routing protocols OSPF and IS-IS are measured for streaming video service life. The experiments were performed using 3 laptops, 1 as a client, 1 as Core, and 1 more as a server, using GNS3 simulator application using Cisco 7200 routers.

For the results of this study, it was found that IS-IS is generally better, both when given the background of the QoS traffic, or when there is a link failure. This is because the introduction of the OSPF neighbor a little more complex than the IS-IS, causing increased process time compared with IS-IS.

**Keywords:** QoS, Routing protocols, MPLS, OSPF, IS-IS, Video streaming