ABSTRACT

Routing is process of searching free route or can be used in the network for a call to be forwarded from the source to the goal. The routing process allows the data packet sent to the destination out of the network. Because of that process, the routing process use much source, such as cost, reliability, network performance, e.t.c. To handle it, so many efforts have been tried, such as the efficiency of network topology, data route determining, the network scope, e.t.c. One of the efforts which has the same goal is by using Multiple Routing Configuration (MRC) method.

Multiple routing is a routing process which has more than one directions to link data to the goal. Multiple Routing Configuration (MRC) allows the data communication in the network Internet Protocol (IP) even though there is a failure in the route of shortest path. This is because of the Multiple Routing Configuration (MRC) keep the communication route more than one, thus, it has the alternative data communication route which can be used when there is a failure in the primary route.

In this final exam, the Multiple Routing Configuration (MRC) in network IP will be simulated by using emulator GNS3, then the QoS network are calculated. The parameters of QoS network are included: delay, jitter, packet loss, and throughput. Beside that, network time convergence are calculated. In order to make the performance applied clear, the result of MRC performance will be compared with OSPF, with the same system and network scheme in the two different topologies.

Keywords: *routing*, MRC, QoS, OSPF