

ABSTRACT

LAN Network is a system consisting of computers designed to share resources, communicate and access information. In a computer network can only communicate on the network only. In order to communicate with different networks, it takes a router to connect two or more networks to pass data from one network to another. Routers work by finding the path that will be used to forward the packet to the destination, the search process it is called routing. A router requires a routing protocol to manage traffic traffic for packet data transmission. The only routing protocol that uses route backups in the process is EIGRP. EIGRP has fast convergence time and offers backup route feature, which in case of any change in EIGRP network does not have to recalculate to determine the best route because it can directly use the backup route. With the EIGRP protocol the bandwidth usage on each link becomes more effective. In this research, performance analysis on the EIGRP routing protocol is implemented in ring topology using four routers and two PCs. Tests conducted in this study by performing connection tests and data transfer between clients. From the test results obtained Quality of Service (QoS) parameters with a delay value of 2.08 ms - 6.20 ms, packet loss value of 0%, throughput value of 70.684 Mbps - 95.749 Mbps, convergence time value of 5,321 second. QoS parameter test results are classified in very good category in accordance with the standardization of TIPHON 05001.

Keyword : Router, Routing Protocol, Local Area Network, Quality of Service.