

## **ABSTRACT**

*This study aims to determine the reliability of a web server network with F5 BIG-IP LTM as a load balancer that divides the traffic load that enters the web server. This study compares the application of the least connection algorithm and the round robin algorithm on F5 BIG-IP LTM load balancing with two web servers. The load balancing test uses the h2load benchmarking tool and wireshark and performs testing by sending a total traffic load of 2000, 4000, 6000, and 8000 requests. The results of the Quality of Service (QoS) test obtained very good performance values for the three parameters according to the TIPHON standard, with response time values of 365,359ms, 358,837ms, 365,274ms, and 368.068ms on the least connection algorithm while the round robin algorithm obtained 359,900 results. ms, 359,900ms, 357,832ms, and 376,299ms, the throughput value is 1876,761 Kbps, 1970,554 Kbps, 1965,507 Kbps, and 1904,598 Kbps on the least connection algorithm while the round robin algorithm results in 1829,785 Kbps, 1927,395 Kbps, 1884,955 Kbps, and 1876,890 Kbps, and the delay values are 1.35ms, 1.38ms, 1.40ms, and 1.43ms on the least connection algorithm while the round robin algorithm is 1.36ms, 1.40ms, 1.42ms, and 1.46ms. It can be concluded that the results of the least connection algorithm are superior to the round robin algorithm.*

*Keyword: Load Balancing, Web Server, F5 BIG-IP LTM, QoS, Response Time.*