

## ABSTRAK

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Judul Laporan Skripsi : Analisa Kinerja Load Balancer F5 BIG-IP LTM Menggunakan Algoritma Weighted Least Connection Pada Web Server (Studi Kasus PT Mastersystem Infotama).  
Pembimbing : Dr. Nungky Awang Chandra, MTI

Penelitian ini membahas tentang kinerja *load balancer F5 BIG-IP LTM* yang membagi beban *traffic* pada sebuah jaringan *web server* di *PT Mastersystem Infotama*. Pada penelitian ini algoritma *load balancer* yang digunakan adalah algoritma *least connection* dan algoritma *weighted least connection*. Kemudian kedua algoritma tersebut diuji menggunakan *tool apache benchmarking* dan hasilnya diambil menggunakan *tool wireshark*. Pengujian dilakukan dengan cara mengirimkan *traffic* sebesar 30, 60, 120 *request*. Masing-masing *request* diuji sebanyak 4 kali pengiriman dan kemudian diambil rata-ratanya. Hasil dari pengujian *QoS (Quality of Service)* dari kedua algoritma tersebut sangat baik sesuai standar TIPHON, dengan nilai *throughput* sebesar 501,25 KBps, 504 KBps, dan 516,25 KBps, pada algoritma *least connection* sedangkan pada algoritma *weighted least connection* diperoleh hasil 501,75 KBps, 520,25 KBps, dan 533,25 KBps. Kemudian nilai *delay* sebesar 1,62 ms, 1,67 ms, dan 1,67 ms pada algoritma *least connection* sedangkan pada algoritma *weighted least connection* 1,4 ms, 1,45 ms, dan 1,37 ms. Lalu nilai *response time* sebesar 5,99 s, 5,97 s, dan 6,14 s pada algoritma *least connection* dan pada algoritma *weighted least connection* diperoleh hasil 5,55 s, 5,54 s, dan 5,61 s. Dapat disimpulkan bahwa hasil pada algoritma *weighted least connection* lebih unggul dibandingkan algoritma *least connection*.

**Kata Kunci :** *Load Balancer, F5 BIG-IP LTM, QoS, Web Server, Weighted Least Connection.*

## ***ABSTRACT***

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*This study discusses the performance of the F5 BIG-IP LTM load balancer which divides the traffic load on a web server network at PT Mastersystem Infotama. In this study the load balancer algorithm used is the least connection algorithm and the weighted least connection algorithm. Then both algorithms were tested using the apache benchmarking tool and the results were taken using the wireshark tool. Testing by sending traffic of 30, 60, 120 requests. Each request is tested 4 times for sending and then the average is taken. The results of the QoS (Quality of Service) testing of the two algorithms are very good according to TIPHON standards, with throughput values of 501.25 KBps, 504 KBps, and 516.25 KBps, in the least connection algorithm while in the weighted least connection algorithm the results are 501.75 KBps, 520.25 KBps, and 533.25 KBps. Then the delay values are 1.62 ms, 1.67 ms, and 1.67 ms in the least connection algorithm while in the weighted least connection algorithm are 1.4 ms, 1.45 ms, and 1.37 ms. Then the response time values are 5.99 s, 5.97 s, and 6.14 s for the least connection algorithm and for the weighted least connection algorithm, the results are 5.55 s, 5.54 s, and 5.61 s. It can be concluded that the results of the weighted least connection algorithm are superior to the least connection algorithm.*

**Keywords:** Load Balancer, F5 BIG-IP LTM, QoS, Web Server, Weighted Least Connection.