Abstract

In this paper, we propose to test Least Connection and IP Hash load balancing algorithm to be applied to web servers over SDN networks. The use of load balancing on web servers over SDN networks began to attract many researchers. The problem of using appropriate load balancing algorithms for this case is still debatable. One of the problems is determining the correct algorithm for web server which has bound function (session). Load balancing algorithm that can provide stable performance is a static algorithm. However, this algorithm does not have a function bound to a server, so it is not possible to apply to a web server with bound functions, such as login session function. Therefore, a possible algorithm was developed for the function. Two examples of algorithms that have the potential to be an effective algorithm for the case of this web server is the Hash and Least Connection IP algorithm. We have implemented and tested the load balancing performance using Least Connection and IP Hash algorithm. In this test, both algorithms will be tested with some crucial parameters for a web server. These parameters are Response Time, Throughput and Resource Utilization. The result of the test with these parameters is Least Connection algorithm gives better performance on response time by 11% more optimal and 9% more efficient memory usage than IP Hash algorithm. And IP Hash algorithm gives 10% more throughput than Least Connection.

Keywords: SDN, Load Balancing, IP Hash, Least Connection, Response Time, Throughput, Resource Utilization.