

ABSTRACT

Along with the increasing needs of users (consumers) so it is necessary to have a more reliable network architecture. Therefore, future network design breakthroughs give good hope for producing a settlement solution. Named Data Networking (NDN) as one of the future network architectures that focus on data-centric. The NDN architecture has more potential for concentrating data management on data exchange than the data location.

NDN network requires additional mechanisms that can improve network performance. The load balancing mechanism aims to overcome the imbalance of the task distribution when the service provider (producer) serves requests from consumers. Random Load Balancing (RLB) is one of the algorithms that can be applied to the NDN load balancing mechanism. The application of the RLB algorithm can maximize the producers role to distribute consumer demand appropriately so the computational load is getting lower.

In this final project, a simulation is carried out to examine the RLB algorithm on the NDN load balancing mechanism. The modification of testing parameters involves interest packet frequency, bandwidth size, payload size, number of consumer nodes, number of producer nodes, number of router nodes, and comparisons without using the RLB algorithm to determine network performance in NDN load balancing. From the simulation, the obtaining data using the RLB algorithm is 48.4% better than without using the algorithm. This algorithm supports load balancing mechanisms in NDN networks to maximize the potential of available producers. The analysis results are based on the Quality of Service (QoS) parameter in accord with the change effect during the test.

Keywords : NDN, Load Balancing, RLB Algorithm, NS-3, ndnSIM