Abstract

The importance of the role of the data center in the development of internet infrastructure is something that needs to be considered. A good data center topology will produce a data center that has good performance as well. The previously proposed topology has a symmetrical structure which has constraints on scalability. Scafida topology is a topology that adopts the Scale-Free Network model. Scafida is one of the topologies that has an asymmetrical structure. Another topology that has an asymmetrical structure is Jellyfish. To determine the performance of the two topologies, it is necessary to conduct research on the capability of bisection bandwidth, diameter, and path length. Based on testing, Scafida has superior performance in bisection bandwidth, while Jellyfish has superior performance in terms of diameter and path length. So it can be concluded that Scafida is suitable when the data center requires high bandwidth capacity. While Jellyfish is suitable for use when you want to lower cost.

Keywords: Data Center, Scale-Free Network, Scafida, performance parameter.