## **Abstract**

One of the Performance Improvements in Data Centers (DC) is to create topology designs in Data Center Networks (DCNs). The influence of network design in the data center will affect the increase in value of throughput in the network. In the Data Center Network topology, the design is divided into two heterogeneous and heterogeneous forms. Homogeneous topology design with the same portfolios added and can achieve high throughput with low costs. However, the heterogeneous network has not been able to achieve high throughput. In this final project, the implementation of topological data design in the basis of random graphs. The results obtained in this study prove that a heterogeneous network with 40 and 32 can achieve high throughput if compared to a heterogeneous network of 24 and 8 degrees and a homogeneous network of 16 degrees

Keywords: Throughput, Data Center Networks, Homogeneous, Heterogeneous, Topology Design