ABSTRACT

Nowadays *Internet of Things* is one of the most popular networking concept because of its wide potential of implementation. furthermore, the ease of internet access and affordability of electronic devices such as sensors and actuators is also affecting the development of this concept. To operate the IoT system on a large scale, a framework or platform is need to the task such as data processing, controlling communications over the devices, and running the services needed [1]. IoT platform should have the ability to overcome all incoming traffic and provide high reliability to run the services in real-time with the lowest error rate.

In this final task, a study of implementation of container virtualization technology to run the IoT platform using Docker was carried out. The advantages of container that is mentioned in the previous research [2] are considered suitable to run this service. The research aims to evaluate the effect of container virtualzation technology to an IoT platform when running its services. This research uses IoT platform with monolithic and SOA architectural models.

From the results of this study, it is found that in terms of service operations, the monolithic platform on a container has the best performance compared to the native. it is proofed by the increase of throughput, response time, and success rate value. Whereas there is a significant decrease in performance value on the SOA architecture platform. It is also found in this study that container technology can increase the resilience of the platform when running its services.

Keywords: Internet of Things, IoT Platform, Container, Docker