

ABSTRACT

Electricity is the main need of society in everyday life. Each building has an electricity meter or kWh meter to calculate the electricity consumption of its consumers in kWh (kilowatt-hour) units. If electricity consumers have several buildings, it is very important to know the electricity usage of each building.

One way is to make an Electricity Mapping System make it easier for consumers to know the use of electricity without having to manually check each kWh meter. This Monitoring System has 3 main parts, namely the Hardware System (*client*), System Server (*server*), and the Web Interface System (*client*). With the rapid development of IOT, many devices can communicate with each other through networks without human interaction.

Data communication networks used are *client-server* based by publishing / subscribing to MQTT Servers and requests for Web Servers that have their respective roles. Based on the test results show that the server can store sensor data sent via nodeMCU with the highest throughput value occurring in scenario 4 with 100% data reception while the lowest throughput value occurs in scenario 3 with 60%. And for receiving static data with the sending process every 15 seconds once in 1 hour, the server system can receive every 1 data for 15,126 seconds so there is a delay of 0.126 seconds.

Key Words: *Server, Internet of Things, MQTT*