

LPWA Network Design and Implementation Strategy of Jakarta and Tangerang Area for Smart Meter Utilities

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ABSTRACT

Internet of Things (IoT) is increasingly being implemented in major cities in the world, including in Indonesia. Currently, several cities in Indonesia have implemented smart city programs. Smart city implementation in Indonesia has not been supported by networks which are suitable for connectivity of equipment such as sensors. Sensors which are connected are still using cellular networks so they are not efficient in terms of power usage and bandwidth, where sensors only require small power and bandwidth. A network technology designed for the use of sensors is LPWA networks (Low Power Wide Area Networks) where, this network connects a large number of sensors with small power usage and narrow bandwidth. In this paper the authors try to design the LPWA network using LoRa technology for the purpose of using smart meters for electricity, water and gas in the DKI Jakarta and Tangerang areas with an approach to network performance parameters. The network parameters designed will be analyzed and adapted to the conditions of the region so that it has good network performance and capacity can meet the needs of smart meters in the region. The purpose of this paper is to produce a network design that fits the needs of smart meters which are expected to be a material consideration for operators in designing the LPWA network.

Keywords : *capacity, design, performance, network, smart meter*
