

ABSTRACT

The growth of Wireless Fidelity (WiFi) technology is so rapid and popular. The technology most widely used for WiFi services is the IEEE 802.11 family of standards. To support the Internet of Things (IoT) era, 802.11ah standard technology has been developed, and the standard is intended to provide a low-cost mode of operation, with a wider coverage area, and can support thousands of devices per cell. This paper discusses IEEE 802.11ah Standard Network Planning for the Internet of Things Application (Case Study: Smart Meter Using WiFi.id Network in Bandung), with the aim of improving network quality in terms of coverage and capacity to improve the efficiency of the WiFi network and so that it can supports the Internet of Things (IoT) service. Network planning using 802.11ah for the internet of things application with a smart meter case study using the WiFi.id network has been successfully carried out. To cover the entire area of Bandung, 23 sites are required. In the capacity, the Tx slots needed to cover possible smart meters for each site are only 9 tx slots out of a total of 100 tx slots. IEEE 802.11ah standard network technology is a Low Power Wide Area Network (LPWA) technology that can be used as an option for connectivity to the internet of things in Indonesia. Based on economic aspects in terms of investment feasibility analysis, the implementation of the IEEE 802.11ah standard network is a viable and positive business for PT Telkom Indonesia (WiFi.id).

Keywords: 802.11ah, internet of things(IoT), smart meter, low power wide area network (LPWA), wireless fidelity (WiFi)