Power Consumption Analysis of Application Layer Protocols for the Internet of Things

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Abstract. In this paper, we present power consumption analysis of application layer protocols CoAP, MQTT and XMPP for the Internet of Things. With this modern concept of the future will be connected all devices which can be connected. Sensors, home appliances, vehicles, mobile devices are just some of the physical objects that will be affected. Here especially may be mentioned the sensory devices. These are devices used to detect events and changes in the environment by generating appropriate output. Many of them are with limited performances, memory and battery. They are often placed in inaccessible areas. Therefore, the power consumption is very important, and which of the protocols used for the Internet of Things provide greater energy savings. According to the test results, MQTT and CoAP provide major energy savings, unlike XMPP which consumes more power. For all protocols, the most energy is spent in a state RX, while the least is spent in a state LPM.

Keywords: Internet of Things, CoAP, MQTT, XMPP.