

ABSTRACT

A fire disaster is an event that is mostly caused by human error (human error) with the impact of property loss, stagnation or cessation of business, obstruction of the economy and government and even resulting in loss of life. In 2019, there were 3.1 million fire incidents recorded throughout the world, resulting in more than 19 thousand deaths and around 68 thousand injuries. The importance of a fire alarm is of course that it is a device that must be present in buildings to detect fires and has been equipped with strict standard operating procedures (SOP) by the Occupational Safety and Health (K3) management unit in each building. Technology that can help monitor hydrant systems is the Internet of Things (IoT). In this research, a quality of service (QoS) assessment framework is carried out to check system performance using the TIPHON standard issued by the European Telecommunication Standard Institute (ETSI) which consists of throughput, packet loss, delay, and jitter. The tools used in this research are laptops, Wi-Fi networks, cellular cards, and the Wireshark application to test QoS parameters. For each parameter aspect, this research produces the following values; parameter average delay value was 179.78 s in throughput and obtained an average value of 0.08% with parameter index 1 category (very bad), packet loss with parameter index 4 (very good), average delay value was 212 .34 ms with a parameter index of 3 categories (good), and the last parameter is jitter with the smallest value of 0.62 ms and a parameter index of 3 with the good category. The index value in each QoS parameter is by the TIPHON standard. This research also aims to analyze the maintenance indicator support team values of Mean Time To Repair (MTTR) and Mean Time Between Failure (MTBF) in the issue ticketing log displayed on the hydrant dashboard, so that the final results will also be known from the availability value based on data analysis calculations. in the issue ticketing log according to the monitoring results from the hydrant dashboard.

Keywords: *Availability, Hydrant Monitoring, MTBF, TIPHON, Quality of Service*