UNIVERSITI TEKNOLOGI MARA

PERFORMANCE ANALYSIS OF ALOHA PROTOCOL IN RFID NETWORK

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ABSTRACT

Radio Frequency Identification (RFID) technologies have evolved in recent years and attract the attentions of profitable and research community. Hence, number of applications of the system has been established and it keeps on increasing tremendously over the years. However, when the number of applications is getting bigger, it will introduce collisions which could cause headaches to user. In view of that, model of anti-collision Aloha protocol is been introduced. This research presents the Aloha anti-collisions analysis between a pure Aloha and a slotted Aloha. OPNET Modeler 16.0 is the simulation tool that has been used to aid the analysis of this research paper. Based on the analysis done on the simulation results, it's showed that the performance of RFID with slotted Aloha is better than the performance of RFID with pure Aloha in terms of throughput and end-to-end delay. With the content and results presented in this paper, it is hope that it will provide insights on the Aloha anti-collisions protocol and will give contributions in RFID's studies and further increase the performance of RFID technology as a whole.

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