AN EFFICIENT DATA MANAGEMENT ALGORITHM USING PACKET TRANSMISSION SCHEDULING FOR WIRELESS SENSOR NETWORKS (WSN)

Haniff Nazrin Bin Mohamed Shafari, Assoc. Prof. Dr. Md Asri bin Ngadi
Faculty of Computer Science and Information Systems,
Universiti Teknologi Malaysia
haniffxs@gmail.com, dr.asri@utm.my

ABSTRACT
Wireless Sensor Networks (WSN) basically is a network infrastructure of tiny devices which capable of collecting data from environment and then transferring the collected data to the sink. However, there are several constraints that make QoS delivery in WSN more challenging such as resource constraints, network scalability and coverage. Hence, an efficient data management algorithm using packet transmission scheduling is proposed to overcome these constraints. This algorithm is basically a management for each data or packet to be sent from each sensor based on similar observation and then group it as one data before sending it to the sink. Each group will be assigned specific transmission rate based on event priority so that important event data such as flood prediction can be sent to the sink as soon as possible. The idea of the proposed algorithm is to conserve bandwidth for each event and by grouping the data based on similar observation, management of data can be more systematic and flexible.

KEYWORD
Packet Transmission Scheduling, Wireless Sensor Networks