ABSTRACT

Routing mechanism is one of the many ways to optimize the performance of wireless sensor networks. Various algorithms and routing protocols have been developed in order to obtain better performance such as the Sensor Protocols for Information via Negotiation (SPIN). However, SPIN algorithm has two main problems namely "blindly forward" and "data inaccessable" which can reduce the performance of the network.

This study attempted to solve those problems by modifying the SPIN algorithm. The additional VC table did not make node send information data continuously and dispose the same data. After the VC table had been updated based on the ADV and REQ messages, the node was able to find and direct the DATA to the target node.

The results of the simulation showed that the SPIN modification improved its performance in terms of the packet loss at 10.39% due to the improvement of the determination of its next hop. The energy consumption was improved by 13,81 % due to some changes of the procedures in TinyOS module. While the latency increased 12,74%,this was due to updated process of the VC table before sending DATA.

Keywords :routing , SPIN, VC Table