Abstract

Location information is essential in many applications of WSNs; it is natural to use this information for routing as well. Location-based protocols or geographical routing protocols to exploit the location information of each node to provide efficient and scalable routing. Various routing algorithms that feat geographic information (e.g., GPSR) have been aimed to attain this goal. These algorithms refer to all nodes by their location, not address, and use those coordinates to route greedily, when possible, towards the destination. However, there are dozens of situations where location information is not available at the node. This paper presents a new geographical routing protocol for Wireless Sensor Networks (WSN) energy-efficient data forwarding, called GRPW (geographic routing protocol washbasin). Protocol GRPW ensures a load balancing, minimizing energy consumption and the rate of message delivery using a routing policy with logical levels, inspired from the water flow in a washbasin, without making the assumption that all sensors are localized. GRPW protocol performance compared to the protocol GPSR show that maximizes the lifetime of the network, provides quality service parameterizable, and is appropriate for dense sensor networks confronting our method to an optimal algorithm.
Geographic Routing with Logical Levels Forwarding for Wireless Sensor Network

References

- Ben L. Sayan, Ben Leong, Sayan Mitra, and Barbara Liskov. Path Vector Face
Geographic Routing with Logical Levels Forwarding for Wireless Sensor Network

- Y. SABRI and N. ELKAMOUN. A Distributed Method for Localization in Large-Scale Sensor Networks based on Graham's scan. Journal of Selected Areas in Telecommunications (JSAT).

Index Terms
Computer Science

Networks

Keywords
Wireless Sensor Network (WSN)  Geographical Routing  Localization