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Energy-aware routing protocol for mobile sensor networks using learning automata algorithms

This paper appears in:

Wireless and Mobile Computing, Networking and Communications (WIMob), 2010 IEEE 6th International Conference on

Date of Conference: 11-13 Oct. 2010

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Page(s): 492 - 496

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ABSTRACT

This paper proposes an energy-aware location-based routing protocol for mobile sensor networks that consist of frequently moving sensors. Our proposed protocol uses learning automata to select best routes that maximize delivery ratio and network lifetime. The protocol uses the location and remaining energy information of sensors to assign a cost function to each sensor node. Each node in network is equipped with a learning automaton which selects least-cost paths for each packet. Simulation results show that the proposed method achieves higher delivery ratio, lower routing overhead and lower energy consumption.

INDEX TERMS

IEEE Terms

Learning automata , Mobile communication , Mobile computing , Routing , Routing protocols , Wireless sensor networks

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mobile communication , routing protocols , wireless sensor networks

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energy-aware location-based routing protocol , frequently moving sensors , higher delivery ratio , learning automata algorithms , lower energy consumption , lower routing overhead , mobile sensor networks

Author Keywords

Energy aware routing protocol , Mobile wireless sensor network , learning automata

Additional Details

References (13)

Topic(s): Communication, Networking & Broadcasting ; Computing & Processing (Hardware/Software)

Conference Location : Niagara Falls, ON

E-ISBN : 978-1-4244-7741-8

Print ISBN: 978-1-4244-7743-2

INSPEC Accession Number: 11678037

Digital Object Identifier : 10.1109/WIMOB.2010.5645022

Date of Current Version : 29 November 2010

Issue Date : 11-13 Oct. 2010

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