



Relay Nodes in Big-Data Wireless Sensor Networks

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GRIN Verlag Gmbh Dez 2014, 2014. Taschenbuch. Book Condition: Neu. 211x151x8 mm. Neuware - Scientific Essay from the year 2014 in the subject Computer Science - Programming, grade: A, Jawaharlal Nehru University (Guru Nanak college of institutions and technology), course: CSE, language: English, abstract: Wireless Sensor Networks (WSNs) are increasingly used in data-intensive applications such as micro-climate monitoring, precision agriculture, and audio/video surveillance. A key challenge faced by data-intensive WSNs is to transmit all the data generated within an application s lifetime to the base station despite the fact that sensor nodes have limited power supplies. We propose using low-cost disposable mobile relays to reduce the energy consumption of data-intensive WSNs. Our approach differs from previous work in two main aspects. First, it does not require complex motion planning of mobile nodes, so it can be implemented on a number of low-cost mobile sensor platforms. Second, we integrate the energy consumption due to both mobility and wireless transmissions into a holistic optimization framework. We present efficient distributed implementations for each algorithm that require only limited, localized synchronization. Because we do not necessarily compute an optimal topology, our final routing tree is not necessarily optimal. However, our simulation results show that...



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