



Secure Routing in Wireless Sensor Networks

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SPS Okt 2013, 2013. Taschenbuch. Condition: Neu. Neuware - This research addresses communication security in wireless sensor networks by developing the Hierarchical Key Establishment Scheme (HIKES) which provides these networks with the basic security requirements and evaluating its effectiveness by implementing on an a routing platform. HIKES allows the central authority to empower sensors to issue secrets keys to local sensors for their communications. HIKES uses a novel key escrow scheme that enables any sensor node to represent the central authority to generate all the secret keys and authenticate other sensors. HIKES localizes secret key issuance, thereby reducing the communication overhead. The key escrow scheme provides HIKES with a large a addressing mechanism. HIKES also provides source and data authentication, and is robust against most known attacks. A hierarchical routing mechanism called Secure Hierarchical Energy-Efficient Routing protocol (SHEER) that implements HIKES is proposed. Simulations have shown that HIKES provides an energy-efficient and scalable solution to the key management problem. HIKES also has low storage, and high address flexibility. Simulations show that SHEER is energy-efficient and is scalable. 104 pp. Englisch.



Reviews

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