Abstract

The ample use of Wireless Sensor Network demands highly effective security mechanism for its sound operation in any hostile environment. The security of encrypted information greatly dependents on the rigidity of underlying Key Management techniques. Hence, key management becomes the most significant issue in case of security of Wireless Sensor Networks. The purpose of this paper is to assess most significant key management schemes of wireless sensor networks e.g. single network-wide key scheme, pairwise key establishment scheme, random key pre-distribution and Q-composite random key pre-distribution scheme. The overall analysis is performed based on a number of criteria such as: loaded key utilization, resource consumption and rigidity against node capture. Besides, to identify the best one, a result based comparison among the schemes is also presented.

References


Index Terms

Computer Science Wireless
Keywords

Wireless sensor network, key management, security, performance evaluation.