Efficient SOA-based Network Management Architecture in Wireless Sensor Networks

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Abstract

During the past few years there has been an explosive growth in the research devoted to the field of wireless sensor networks (WSN). These networks use hundreds to thousands of inexpensive wireless sensor nodes over an area for the purpose of monitoring certain phenomena and capture geographically distinct measurements over a long period of time. The pervasive interconnection of such nodes has given birth to a broad class of exciting new applications in several areas of our lives, including environment and habitat monitoring,
healthcare applications, home automation, and traffic control. Up to now most of the works focused on designing routing protocols to address energy consumption issue, fault tolerance of WSN. In our work we designed a model which is based on service oriented architecture (SOA) for the management of WSN through internet mainly. Our model builds a standardized interface between a WSN and external IP network. Designed gateway that offers a synthesis of web services offers by the WSN assuring its entire management. Furthermore, Authentication, Authorization and Accounting mechanism has been implements to provide security services.

Reference


Index Terms

Computer Science  Web Services

Key words

Service-Oriented Architecture
Wireless sensor networks

AAA

Web services