Distributed Clustering-Task Scheduling for Wireless Sensor Networks Using Dynamic Hyper Round Policy

ABSTRACT

Wireless Sensor Networks (WSNs) consist of a great number of nodes with limited computing, sensing, and wireless communication capabilities. These networks have been used in a wide area of applications, such as health care, pollution monitoring, and target tracking systems. In many applications, it is not possible to recharge the limited energy of the sensor nodes' on-board batteries, a limitation which has motivated manufacturers to produce low energy consuming hardware devices and researchers to propose energy-aware data collection protocols. By making optimum use of this bounded energy of nodes, early energy depletion may be avoided.

EXISTING SYSTEM

In Existing System, Prolonging the network life cycle is an essential requirement for many types of Wireless Sensor Network (WSN) applications. Dynamic clustering of sensors into groups is a popular strategy to maximize the network lifetime and increase scalability. In this strategy, to achieve the sensor nodes' load balancing, with the aim of prolonging lifetime, network operations are split into rounds, i.e. fixed time intervals. Clusters are configured for the current round and reconfigured for the next round so that the costly role of the cluster head is rotated among the network nodes, i.e. Round-Based Policy (RBP). This load balancing approach potentially extends the network lifetime. However, the imposed overhead, due to the clustering in every round, wastes network energy resources.

DIS ADVANTAGES

- Decreases the overhead of frequent reclustering.
- It is not suitable for other data delivery models.

PROPOSED SYSTEM

In Proposed System, we propose a distributed energy-efficient scheme to cluster a WSN, i.e. Dynamic Hyper Round Policy (DHRP), which schedules clustering-task to extend the

network lifetime and reduce energy consumption. Although DHRP is applicable to any data gathering protocols that value energy efficiency, a Simple Energy efficient Data Collecting (SEDC) protocol is also presented to evaluate the usefulness of DHRP and calculate the end-to-end energy consumption. Experimental results demonstrate that SEDC with DHRP is more effective than two well-known clustering protocols, HEED and M-LEACH, for prolonging the network lifetime and achieving energy conservation.

ADVANTAGES

- Low level of energy consumption.
- It is compatible with all data delivery models.

SYSTEM REQUIREMENTS

H/W System Configuration:-

Processor	-	Pentium –III
RAM	-	256 MB (min)
Hard Disk	-	20 GB
Key Board	-	Standard Windows Keyboard
Mouse	-	Two or Three Button Mouse
Monitor	-	SVGA

S/W System Configuration:-

Operating System	:	Windows95/98/2000/XP
Application Server	:	Tomcat5.0/6.X
Front End	:	HTML, Jsp
Scripts	:	JavaScript.
Server side Script	:	Java Server Pages.

Database : MySQL 5.0

Database Connectivity : JDBC