

Article

Enhanced Q-LEACH routing protocol for wireless sensor networks

January 2015

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Abstract

Wireless sensor network (WSN) defined as a group of spatially dispersed and committed sensors for sensing and recording the physical situation of the environment and arrange the collected data at a base station. WSNs measure environmental surroundings like temperature level, sound effect, pollution levels, humidity, wind speed and direction, pressure condition, etc. Sensor network is battery power operated. The major limitation of wireless sensor network is energy and network life time. To solve this problem Enhanced Quadrant based Low Energy Adaptive Clustering Hierarchy (Enhanced Q-LEACH) protocol is used. For each round routing protocol will check if energy of cluster head has fallen which is referred as threshold level than it will undertake cluster head and cluster formation operation. Otherwise same cluster head will continue its procedure by considering residual energy. This is how much of energy that goes wasted in cluster head formation action can be saved. Moreover, control overhead is also limited. Experimental results show that when compared to the existing system, in the proposed system is highly efficient in terms of network life time, energy consumption, Routing overhead and Average end to end delay.

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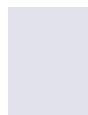
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