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ENERGY CONSUMPTION DESIGINING FOR FREE DATA AGGREGATION ECAP

R. G. Nishaa*[1], S. Swetha[2], N. Suriya[2] and Vishnupriya. S.[3]

[1]M. E., Assistant Professor, Department Of Computer Science, Sri Akilandeswari Women's College, Vandivashi.

[2,3]PG Scholar, Department Of Computer Science, Sri Akilandeswari Women's College, Vandivashi.

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***Corresponding Author**
R. G. Nishaa
M. E., Assistant Professor, Department Of Computer Science, Sri Akilandeswari Women's College, Vandivashi.

ABSTRACT

In Wiriness Sensor Network (WSN), energy sufficiency in the network is used for processing the data usually in the sensor node. The Data aggregation is used to conserve the energy reduce the false data energy consumption for aggregation protocol (ECAP) which reduces the false data in the ink nodes. The suspect data are transmitted for data aggregation process. A buffer of each node is partitioned to maintain different types of flow for fair and efficient. data delivery the transmission rates of the source and intermediate nodes are adjusted during congestion. The performance of the proposed protocol is evaluated through extensive simulations. The simulations results reveal that it outperforms the existing structure free protocols in. terms of energy efficiency, reliability and on time delivery ratio.

KEYWORDS: Energy Consumption ECAP Protocol, Data aggregation, Redunancy.

INTRODUCTION

In this sector wsn considere our scheme frame work for energy saving data aggregation and expose in structure free wireless sensor networks the first subsection views the method to build up the logical topology. WSN have several characteristics such as energy efficiency, security, optimization and load balancing etc. The main objective of sensor networks is to

sense the node and transmitting the data with high delivery ratio and low latency. Major application of sensor network such as detect earth quake, machinesurvillenc and preventive maintenance, medicine and health care, logistics. Sensor network can be divided in to two types: wired and wireless networks.

Releted Work

Overview

In this sector wireless sensor network, present a intensive study on the actual protocols that increase the network lifetime by complex based and complex-free data aggregation.In structure true based data aggregation the data are broadcast to the base station by construct chain tree array tree-array or hierarchicalarray. Thepower-efficient only congregationin sensor informationsystem (PECASIS).Each node implement data blending where it join our own data with bystander's data to development a single packet of the same length and then transport to the next bystander. The Tree based energy efficient protocol for sensor information (TREEPSI) is a tree-based aggregation that selects root noderegardless among all the sensor nodes. This it starts manufacture ranked way to form a tree structure. The direction is computed either central by a sink or tranimission the way in information.

Leach

The protocols such as low energy adaptive clustering hierarchy (LEACH), Threshold-sensitive Energy Efficient Protocol (TEEN), Adaptive Periodic Threshold-sensitive Energy Efficient Protocol (APTEEN) and HEED form the clusters of Sensors. Data from various sensors are number at the cluster head (CH) and the CH sends these data to proximate CH or to the base station. The LEACH selects the CHs regardless on the basic of remaining energy to scatter energy load systematically among sensor nodes in a network. The cluster member send the data precisely to the CH for data blending and the dissolve data are forwarded to the BS. The consolidate LEACH (LEACH-C), uses factitious handle method to select the CHs for explicit tome slots so that the average method conveyance power between sensors and their CHs is minimized. This is a accumulate nearing that cannot be series to very great numbers of sensors.

Energy Consumption Designing For Free Data Aggregation Using (ECAP)

Our proposed framework for energy efficient data aggregation and delivery in structure free WSNs. The first subsection presents the procedure to construct the logical topology. In the next subsection, we present the approach to select the sensors that are eligible to transmit the

sensed data depending on the required reliability of the occurred event. The judicial waiting policy for efficient data aggregation and data forwarding is presented in the next subsection. In the last subsection, we present an efficient congestion control mechanism to reduce the packet loss and the local recovery of the lost packets.

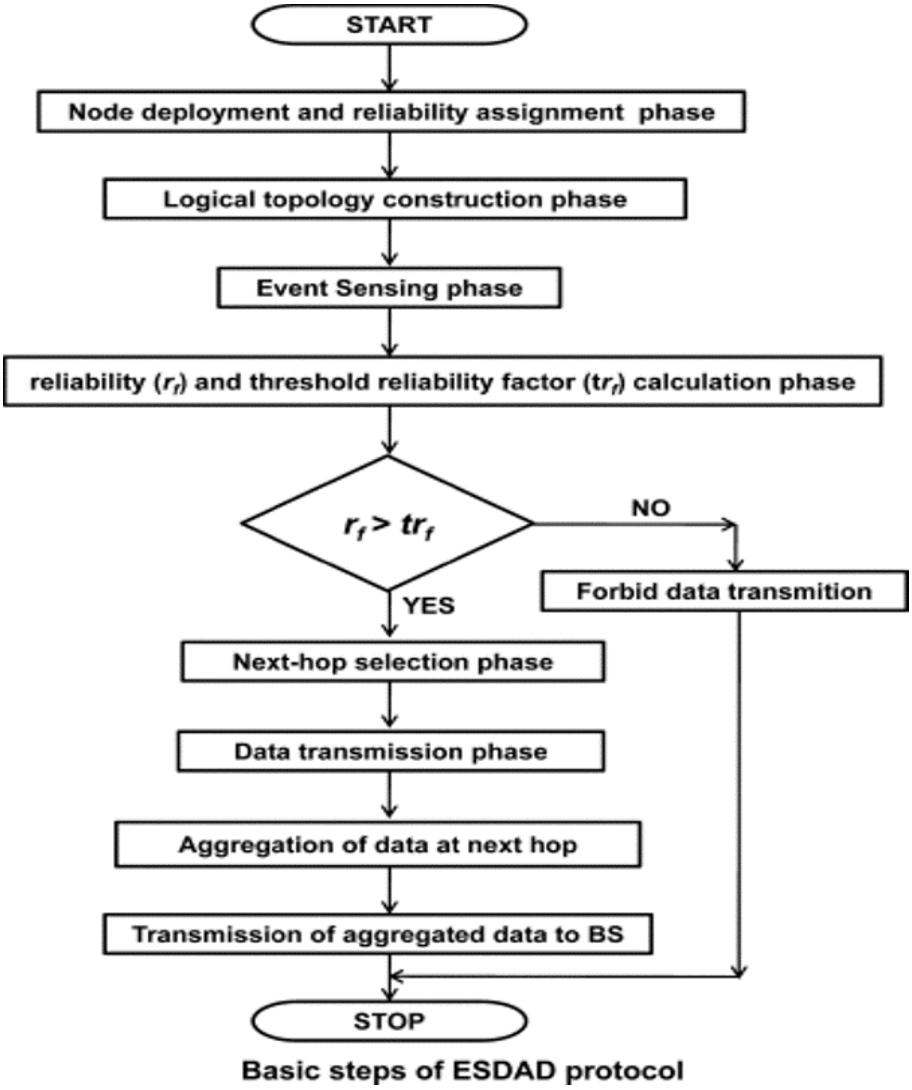
Logical Topology

Topology can be used to reduce the inference, disturbance in the network. It can be used to communicate the maxnimum number of nodes directly. The Sensor node must Know its Exact Position, also Known Relative node and basic node during topology Construction.

It is initiated by Base Station, After the Acknowdgement of data. First, Topology initiate Broadcasting, to send "HI" message. Then it Can be check for the topology transmission. After Sending the message, it can be awaiting for the acknowledgement, to avoid collision if other Nodes. The message "HI" having name ID, locate the node, energy level, Storage Status and also the hop Content to reash to BS Contain hc=0. The Mode Gather the Message HI, and it transmit the message as"1". This Process continues till all the nodes are included in the hierarchy or the time for logical topology construction is over. The WSN is dynamic in nature and the topology changes when the node dies. In case of node death in the neighborhood of a node, the new nodes are selected for data transmission on the basis of the cost function.

We don't construct a static structure rather we use a structure free topology where the hierarchy of sensor nodes decides the data forwarding to a level not to a specific node. After the topology construction phase, each node knows its own logical level, available energy, position and buffer occupancy of all the neighboring nodes in its radio range. The logical topology is constructed only once at the beginning and is not required to be repeated like other structure based topology constructions. The initial topology construction phase helps to identify the neighborhood of a node. The WSN is dynamic in nature and the topology changes when the node dies. The structure based topology c. This graph shows the result of high delivery ratio obtained by using number of packets and time taken by a node. ontrol protocols initiate topology construction phase when the network energy goes below a threshold energy level or after a significant number of nodes die in the network. This increases a significant amount of energy consumption in WSN. The proposed protocol saves the energy wasted in topology construction by adopting a structure-free data delivery approach. In case of node death in the neighborhood of a node, the new nodes are selected for

data transmission on the basis of the cost function. Thus, the proposed protocol can handle topology changes without reconstructing the topology.



Basic steps of ESDAD protocol

CONCLUSION

In this paper, we propose a reliable energy efficient and structure free data aggregation protocol for WSNs. In the ECAP, we consider the sensing region divided into different subregions that are sensed with different reliability requirements. Our proposed protocol allows a selected number of senders to transmit the sensed data depending on the reliability requirement. This not only saves the energy consumption of the sensors, but also decreases the traffic load in the network. This less traffic load in case of our proposed protocol in comparison with the existing protocols decreases the end-to-end delay due to congestion and loss recovery. Furthermore, the structure-free data aggregation approach used in our protocol also saves energy consumed due to the computation of a structure and also increases the

performance of WSN. We also considered the problems of near sink data aggregation in WSNs and proposed a near source data aggregation. The efficient next node selection method used in our protocol improves spatial and temporal convergence for data aggregation. The sensed data are aggregated selectively to improve energy consumption and decrease miss ratio as well as end-to-end delay. The miss ratio is also minimized through an efficient buffer partition and management. In our future study, the proposed protocol needs to be modified and tested to adopt the real-time dynamic environment. The protocol needs to be tested for real-time WSN applications that require diverse reliability required in the sensing field.

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