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Technique Planned For Collecting Mobile Data in Wsn

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ABSTRACT

The Mobile Data gathering technique used for Wireless Sensor Network on large networks called Mobile Data Collector or M-Collector which uses battery power and a transceiver. This M-Collector brings mobility into the network for the data collection mechanism by roaming in the network for collecting data from the nodes like a mobile base station. The M-Collector polls the data periodically from the nodes and from each sensor using the Single Hop mechanism and eventually transfer the data collected from the sensor and the nodes to the Static Sink. Here mainly focus on the problem of minimizing the length of each data gathering traversing area which refer to as a Single Hop data gathering problem. To minimize this problem proposed an algorithm to utilize the M-Collector data collecting path to the fullest and also for certain applications where restricted distance and time constraint can setup multiple M-collector by using algorithm designed according to collect data and handle the multiple M-Collector. This scheme can improve scalability and balance the energy consumption between the sensors. This scheme can improve and increase the network lifetime as compared to the static data collection sinks.

Keyword: *M-Collector, static sink, data collection, Single Hop.*

I. INTRODUCTION

Wireless Sensor Networks have been emerged and researched in past few years. Wireless sensor networks (WSNs) have evolved as a new information-gathering mechanism in a wide range of applications, such as medical treatment, outer- are usually setup in a large scale network. The sensor must the capability to discover space exploration, battlefield surveillance, emergency response, etc. [1].The sensor nodes the nodes in the large networks before it can be configured for data collection. The sensor must efficiently discover the nodes because the energy consumption is high in the process of discovery and in transferring the collected data to the static sink. Energy consumption on sensing is relatively stable because it only depends on the sampling rate and does not depend on the network topology or the location of sensors. Since large networks are composed of hundreds of sensor nodes with different types of sensors [2], so it is inadequate to use the single static data sink to host data for all the sensors present in the network. A mobile data collector is a suitable option to migrate to every sensor and upload the data to the static sink. Because some applications are distance bound and restricted to time constraints. Specifically, a mobile data collector equipped with a powerful transceiver, battery, and large memory and powerful CPU. The mobile data collector starts traversing from the data sink, traverses the network, collects sensing data from nearby nodes while moving, and then uploads data to the data sink. Since the mobile collector is mobile or free to travel to the nodes in the network it can increase the network lifetime as the mobile collector comes close to them they require less amount of battery power consumption. Some of the large application may require multiple mobile collectors as single mobile collector is not sufficient to collect data by travelling entire network so multiple mobile collectors can be used to overcome this problem. To avoid unbalanced network lifetime, it will use the one-hop data-gathering scheme by utilizing multiple M-collectors.

II. EXISTING SYSTEM

In existing system a network which has only a static data collector or a network in which the mobile collector can only move along straight lines. In this method data packets are forwarded to the data sink via multi hop relays among sensors. However, due to the inherent nature of multi hop routing, packets have to experience multiple relays before reaching the data sink. Existing system having two disadvantages that is high energy

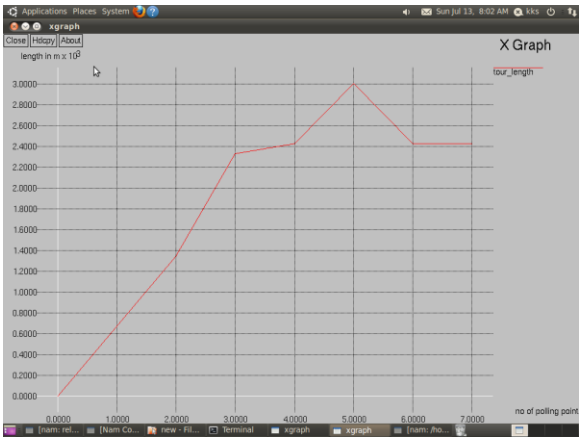
consumption and high data gathering delay.[3] such that mobile collector move at a fixed speed and ignore the time for making turns and data transmission, such roughly estimate the time of a data gathering length. In this system the problem of data routing were came to noticed .In the existing system there is a problem of data collecting if the distance of sensor node is too large so the sensor node cannot hold the data for a long period to transfer when mobile collector reach after a long period to collect a data. The battery power of sensor node is not reliable so it is necessary to save the energy of sensor node.

III. PROPOSED SYSTEM:

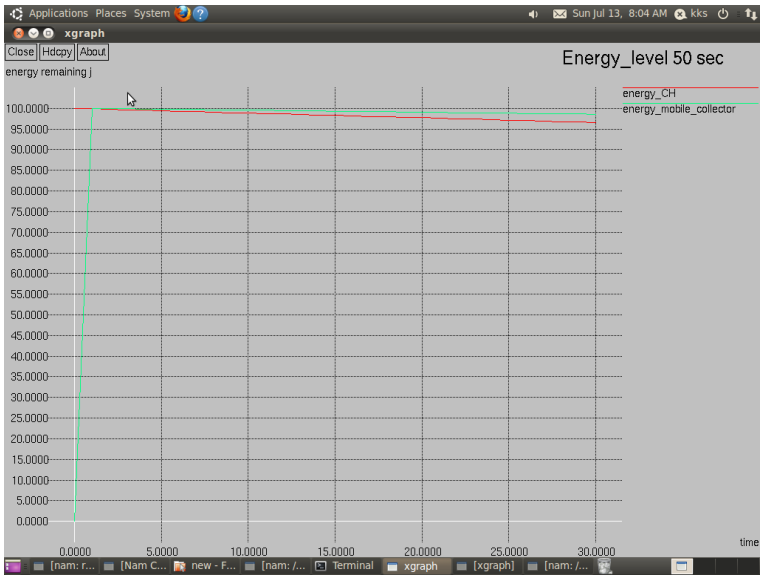
In proposed system new data-gathering mechanisms for large-scale sensor networks when single or multiple M-collectors are used. In data-gathering scheme with multiple M-collectors, only one M-collector needs to visit the transmission range of the data sink. While the entire network can be divided into sub networks. In each sub network, an M-collector is responsible for gathering data from local sensors in the subarea. Once in a while, the M-collector forwards the sensing data to one of the other nearby M-collectors, when two M-collectors move close enough. Finally, data can be forwarded to the M-collector that will visit the data sink via relays of other M-collectors.The main advantage of this system is to reduced data gathering delay in WSN and Low energy consumption in WSN.The different methods where introduced to overcome the problem of energy consumption and data gathering delay.In order to shorten data gathering latency relay hop count is constrained to a certain level to limit the energy consumption at sensors,specifically,a subset of sensor will be selected as the polling points(pps).the pps will temporarily cache the data and upload them to mobile collector[4].The two algorithm sets for pps among sensors,The ftrst algorithm is centralized algorithm that places the pps on shortest path trees rooted at the sensors closest to the data sink and takes into consederation the constraints on relay hops for local aggregation while shortening the tour length of the mobile collector.The second algorithm is adistributed algorithm,where sensors compete to be a pp based on a priority in a distributed manner.

IV. RESULT:

In previous method loss in energy is high and data gathering delay is high because of large area data collection throught out network was difficult for finding the shortest path,.In this method different technique were used for finding data in large network,here is the graph fig[1] which is plotted among number of polling points versus length in meter,in particular area number of polling points were divided to some distance in length and then it shows distance of mobile collector which collects data from particular area.



In fig[2] the graph is plotted among energy and time.In this method the energy were in seconds by sending data to M-collector,So the More energy of sensors will save in this method and life time of sensor were increased,and delay in data gathering will reduced.



V. CONCLUSION

A mobile data-gathering scheme for large-scale sensor networks. Implemented a mobile data collector, called an M-collector, which acts as a mobile base station in the network. An M-collector starts the data gathering periodically from the static data sink, traverses the entire sensor network, polls sensors and gathers the data and finally uploads data to the data sink. Our mobile data-gathering scheme improves the scalability and increase network lifetime. With the help of M-collector, data gathering becomes more flexible and adaptable to the unexpected changes to the network topology and data gathering by M collectors is perfectly suitable for applications in large scale networks with restricted distance/time constraints for each data-gathering traversing, for which multiple M-collectors came into picture by letting each of them move through a shorter sub tour than the entire tour.

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