

Efficient Transmission in WSN using Automatic Base Station Selection Model under Multiple Path transmission

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ABSTRACT: A sensor network is composed of a large number of sensing nodes, whose task is to sense physical surroundings, and a small number of base stations (or sink nodes), whose task is to store and process the sensory readings. Multicast is an essential operation in wireless sensor networks, as it can provide an efficient way for group communication, which is widely used in sensor networks. Based on the communication patterns between these two kinds of nodes, the multicast applications of sensor networks can be divided into two categories, namely, large group multicast and Small group multicast we proposed ABSM for efficient transmission.

KEYWORDS: WSN, PROTOCOL, AODV, ABSM

I. INTRODUCTION

Wireless Sensor Network (WSN) is considered as most important technologies for the twenty-first century. A WSN consists of a large number of low-cost, low-power, and multifunctional wireless sensor nodes, with sensing, wireless communications and computation capabilities. Wireless sensor network consists of collection of mobile or sensor nodes which are able to communicate with each other or directly to base station (BS) in order to collect data accurately, autonomously. A greater number of sensors allows for sensing over large regions. It is used to collect secure data from distant and hazardous environment such as battle field; volcano monitoring etc which are major applications of wireless sensor network is monitoring and tracking. WSN mainly for basic components like processing unit, sensing unit, radio unit and power source. In WSN, data aggregation and data dissemination play very important role. Data Aggregation technique is used to increase the lifetime of network by collecting information in an energy efficient manner. Data Dissemination protocols are required to distribute the data and code between various sensor nodes and it provides periodic updates to sensor programs. [1][8][10][12]

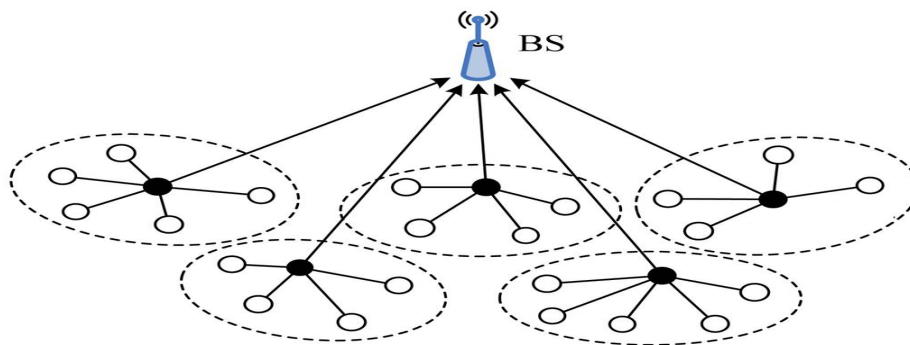


FIG.1 (WIRELESS SENSOR NETWORKS)



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II. CHARACTERISTICS OF WSNs

The important characteristics of WSNs are given as [9][11]:

- Less power consumption
- Ability to cope with node failures
- Mobility of nodes
- Communication failures
- Heterogeneity of nodes
- Usability in large scale
- Withstand in unfavorable environmental conditions
- Ease of use

III. RELATED WORK

A. Senthil Kumaret al.[1] In this paper a data discovery and dissemination protocol for wireless sensor networks (WSNs) is responsible for updating configuration parameters of, and distributing management commands to, the sensor nodes. All existing data discovery and dissemination protocols suffer from two drawbacks. First, they are based on the centralized approach; only the base station can distribute data item. Such an approach is not suitable for emergent multi-owner-multi-user WSNs. Second, those protocols were not designed with security in mind and hence adversaries can easily launch attacks to harm the network. This paper proposes the first secure and distributed data discovery and dissemination protocol named (DiDrip).

Saahirabanu Ahamed et al. [2] In this paper secure reprogramming is an important issue in Wireless Sensor Networks (WSN) to suit the sensor nodes for different applications. Reprogramming is the process of uploading a new code or changing the functionality of existing code. It enables users to extend or correct functionality of a sensor network after deployment at a low cost. The mobile sink is most widely used for the sensor programming. The existing protocols are based on the centralized approach in which only the base station has the right to begin reprogramming. It is desirable for multiple authorized network users to simultaneously reprogram sensor nodes without the involvement of base station called as distributed reprogramming. Therefore the base station or the network owner can also assign reprogramming privileges to different users. Reprogramming the sensor node faces security challenge such as, the attacker may send the malicious code image for reprogramming. Then the attacker can easily capture and compromise the node in the network. In this paper, propose a Secure Localized Sensor Reprogramming Protocol (SLSRP) with mobile sink for wireless sensor networks. It allows the base station to authorize multiple network users with different privileges to simultaneously and directly disseminate data items to the sensor nodes. Every code update must be authenticated for security reasons to prevent an adversary from installing malicious code in the network. This scheme is also implemented in an experimental network of resource-limited sensor nodes to show its high efficiency in practice.

Kanchan Verma et al. [3] Wireless sensor network comprises of a set of sensor nodes that communicate among each other using wireless links and work in an open and distributed manner because of less number of resources on the nodes. The sensor nodes sense information about an event from the ambience and then the information is forwarded to a sink node for further processing and analyzing. The sensed information can be forwarded in many ways, earlier uni cast routing was there to a single sink node, but due to the wide variety of WSN applications the presence of multiple sinks is realized which necessitates multicast routing for efficient data dissemination to multiple destinations.

Gao Weimin and Zhu et al. [4] proposed the techniques of distributed data storage in wireless sensor networks. Firstly, the challenge and the need for such techniques were summarized; Secondly, some representative distributed data storage and retrieval schemes were introduced in detail; finally, the future research directions and open issues were pointed out..

Jisha Mary Joseet al. [5], Wireless sensor networks (WSN) are basically distributed networks or a collection of sensor nodes which collect information which are used to analyze physical or environmental conditions. WSNs are usually setup in remote and hostile areas and work in extreme conditions. Applications of WSN include habitat monitoring, industrial applications, battlefield surveillance, smart homes etc. Most of them require regular updating of software in sensor nodes through the wireless channel for efficient management and working.

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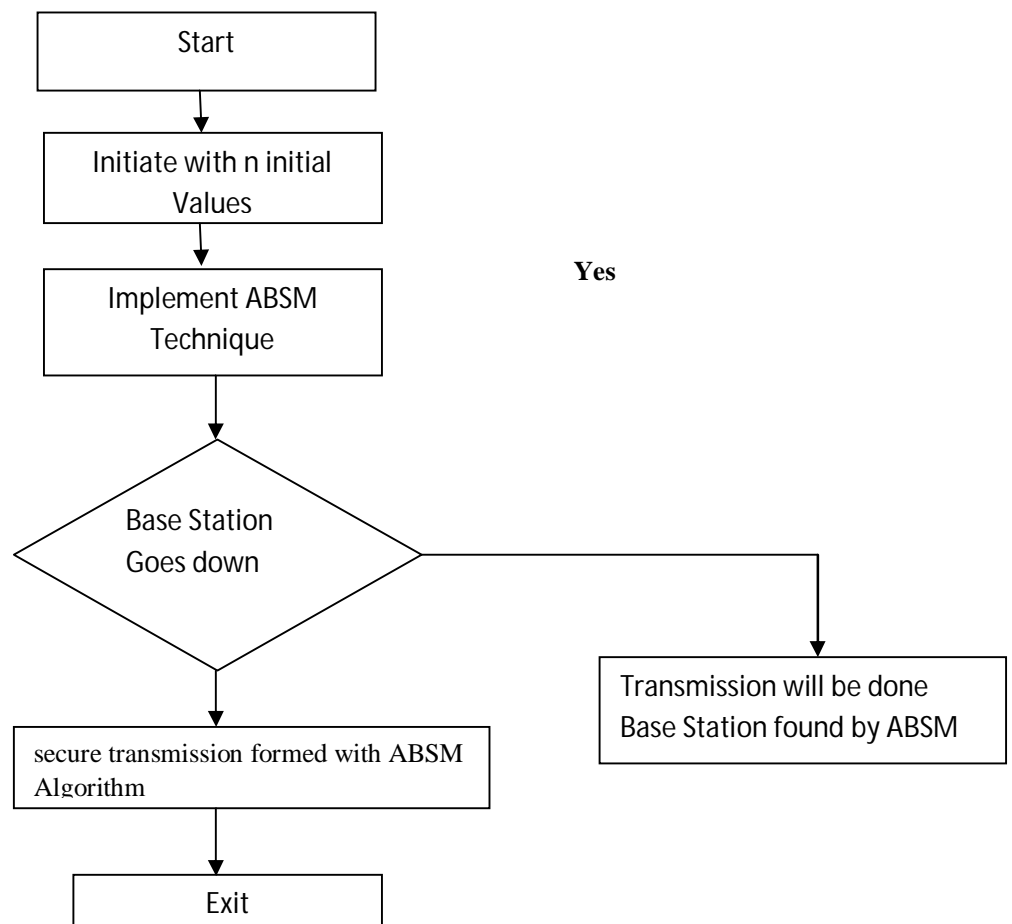
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Ms. V. Savitha et al. [6] Wireless Sensor networks are a new class of distributed system that is an integral part of the physical space they inhabit. Unlike most computers which work primarily with data created by humans, sensor networks reason about the state of world that embodies them. The network consists of numerous sensor nodes with sensing, wireless communications and computing capabilities. These sensor nodes require time to time update of variables by a Process called dissemination. This is done using dissemination protocols like Drip, DIP (Dissemination Protocol) and DHV. These protocols help improve reliability And efficiency but do not consider security of transmitted data..

Rishi parseiya et al [7] proposed scheme facilitate the energy saving and time efficiency for both cluster heads and base station using enhanced dissemination technique . These demands need for quickly and efficiently disseminating data and code to sensor nodes to reprogram than to collection the current needs for application which is achieved by data dissemination protocols. This scheme gives better result rather than previous technique.

IV. PROPOSED ALGORITHM

The Proposed Technique is multi-hop data forwarding techniques; the main task of the route discovery process is to determine a set of intermediate nodes that should be selected to construct several paths from the source nodes towards the sink node. The protocols in this category construct the routes by broadcasting messages. The main purpose of message broadcasting is to collect information of the neighboring nodes and to build the neighboring table.Each node contains a neighboring table which stores the significant information about the neighboring nodes including residual energy, hop distance, and signal strength. The neighboring table helps the node to decide the best next hop by using the attributes stored in the table. This scheme leads to a multiple path infrastructure, which is created from the no of destination that satisfy the specific Requirements



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PROPOSED ALGORITHM

In our proposed Algorithm. The complete distributed system like WSN can Transmit information efficiently, the need for efficient algorithms to select servers according to the

Step 1: Generate WSN scenario using NS2

Step 2: Start with some initial elements like no of nodes neighbor node, Base Station. Doctor

Step 3: Initialize with n no. of nodes.

Step 4: Implement ABSM technique.

Step 5: initially Start ABSM algorithm for efficient resource switching Technique

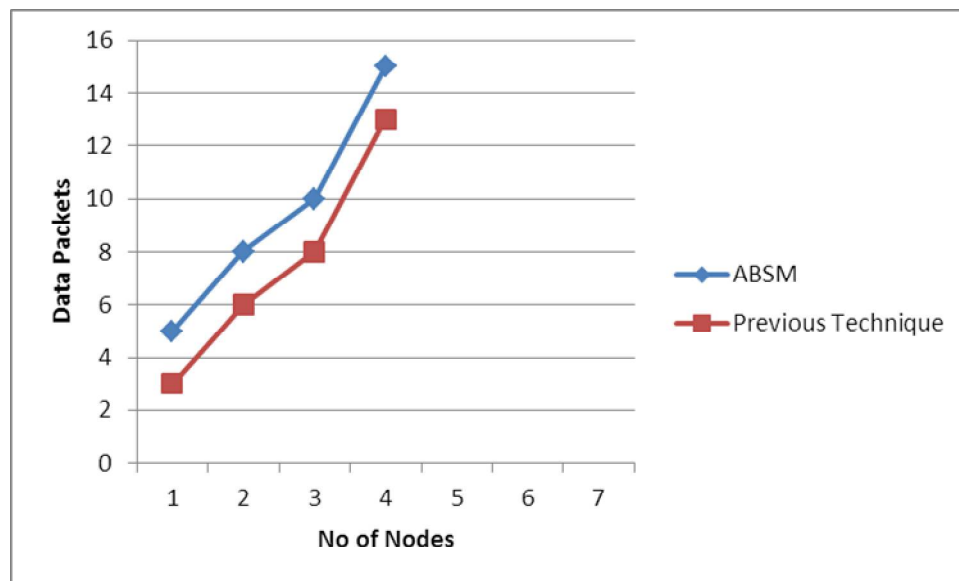
Step 6: In ABSM if any base station will stop working another available base station will be used for transmission

Step 7: Then finally With ABSM Algorithm secure transmission will be formed.

Step 8: This process continuation until the efficient and secure transmission is formed.

Step 9: This process continuation until the efficient path is formed in network.

V. RESULT AND ANALYSIS



The result show proposed ABSM data transmission has better result than previous method

VI. CONCLUSION

Wireless Sensor Network is the important in the field networking. A WSN is basically made up of number of several sensor nodes which work together. We propose an effective multicast algorithm called Cost effective, which can construct optimal multicast Transmission in WSN to achieve the best multipath transmission in Wireless sensor network.

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BIOGRAPHY

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