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Automatic Base Station Selection Model for Efficent Transmission in WSN

Pardeep Kaur, Navpreet Kaur, Nitin Bhagat

***Abstract*— Multicast is an essential operation in wireless sensor net-works, as it can provide an efficient way for group communication, which is widely used in sensor networks. Generally, 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. 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**

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***Index Terms*— WSN, PROTOCOL, AODV**

I. INTRODUCTION

WSN has become an emerging field in research and development due to the large number of applications that can become significantly beneficial from such systems and has led to the development of cost effective, not-reusable, tiny, cheap and self-contained battery powered computers, also called sensor nodes. These sensor nodes can accept input from an attached sensor and process the input data gathered from the sensor nodes. After that the process data wirelessly transmits the results to transit network. WSNs are highly dispersed networks of lightweight and small wireless nodes, deployed in huge numbers, to monitor the system or environment by the measurement of physical parameters like pressure, temperature, or relative humidity. China put intelligent information processing and sensor network in priority for 15 years in the "National medium and long term pro-gram for science & development (2006-2020)". WSNs can be applied in industry, agriculture, military defense, environment monitoring, remote control and city management etc. that is why WSNs are becoming more and more popular .WSNs has much more similarity with Mobile Ad-hoc Networks (MANET). WSNs also create network that contains sensor nodes connecting with each other, in an Ad-hoc manner and no proper infrastructure is there for both but WSNs have the collection of data with the sensor nodes but MANET can or cannot use sensor nodes. WSNs consist of tiny and low power sensor nodes that collect data through tiny sensors, process the data and send to particular location. The multiple paths rather than a single path in order to enhance the network performance. The fault tolerance (resilience) of a protocol is measured by the likelihood that an alternate path exists between a source and a destination when the primary path fails. This can be increased by maintaining multiple paths between the source and the destination at the expense of an increased energy consumption and traffic generation. These alternate paths are kept alive by sending periodic messages. Hence, network reliability can be increased at the expense of increased overhead of maintaining the alternate paths.[5]

Pardeep Kaur, Student, M.Tech (CSE), PTU
Navpreet Kaur, Student, M.Tech (CSE), PTU
Nitin Bhagat, Assistant Professor, PTU

II. 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, we 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 ambiance 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] the techniques of distributed data storage in wireless senor 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. [6], 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

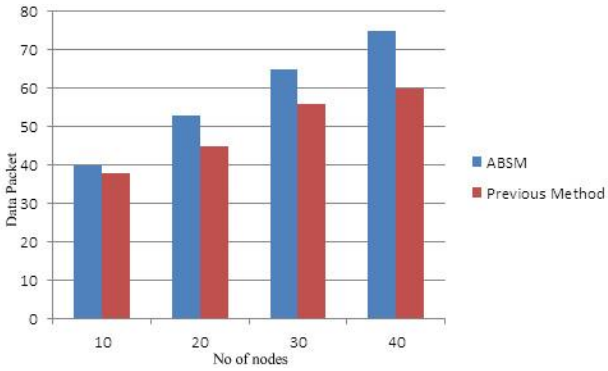
Ms. V. Savitha et al. [7] Wireless Sensor networks are a new class of distributed system that is an integral part of the physical space they inhabit. Unlike most computers which work primarily with data created by humans, sensor networks reason about the state of world that embodies them. The network 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 helps improve reliability and efficiency but do not consider security of transmitted data..

M. S. Kakkasageri et al. [11] introduced a clustering scheme based on multi-agent system. This scheme consider the direction, speed and number of neighborhood parameters for forming stable and dynamic cluster.this system also concern with vehicle weight, lane position and crrossection area. Head is selected by using average speed and more neighbors. Performance of cluster measured by using formation and head selection time.

III. Proposed Algorithm

In our proposed Algorithm. The complete distributed system like WSN can Transmit information efficently, 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.
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 the will provide the efficient Routing Transmission.
Step 8: This process continuation until the efficient transmission is formed.

IV. Result and Analysis



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

V. CONCLUSION

In this paper, we propose an effective multicast algorithm called Cost effective , which can construct optimal multicast Transmission in wsn to achive the best multipath transmission in wsn

.References

[1] A. Senthil Kumar, S.Velmurugan, Dr. E. Logashanmugam (2015), “A Secure Distributed Data Discovery and Dissemination in Wireless Sensor Networks” International Journal of Engineering & Science Research, vol. 5
[2] Saahirabanu Ahamed and Ananthi Sheshasaayee(2015),“Secure Localized Sensor Reprogramming Protocol With Mobile Sink For Wireless Sensor Networks” Middle-East Journal of Scientific Research, pp 1293-1299
[3] Kanchan Verma (2015), “Multicast Routing Protocols for Wireless Sensor Networks: A comparative study” International Journal of Computer Science and Innovation, pp 39-52
[4] Gao Weimin and Zhu Lingzhi (2015), “Distributed Data Storage in Wireless Sensor Networks” International Journal of Database Theory and Application, vol.8
[5]A. Senthil Kumar S.Velmurugan. “ASecure distributed data discovery and dissemination in wireless sensor network Volume 5, july 2015
[6] Jisha Mary Jose, Jomina John 2014, “Secure Data Dissemination Protocol In Wireless Sensor networks Using Xor Network Coding” International Journal of Research in Engineering and Technology, vol.3
[7] Ms. V. Savitha M.E., Mr. E.U. Iniyan M.E., Ms. M. D. Dafny Lydia(2014), “Small Data Dissipation Using Se-Drip –An Enhanced Version of Drip” International Journal of Engineering Trends and Technology,vol.18