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# IMPROVEMENT IN ROUTING PROTOCOL FOR WSN

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***Abstract*— A wireless network of sensing element (WSN) can be a group of nodes in a systematic way within a network. WSN nodes enlarging low power devices consisting of 1 or more sensors, processor, memory or storage, radio and trans-receiver connected inside an antenna that can be internal or external. Sensors can be mechanical, thermal, chemical, optical, magnetic and other distant. Symptoms created by the senses are naturally analogous. Analog to digital device (ADC) has been used to convert sensory-induced sensors into digital form and integrated into the process unit. Sensors and ADCs are known to be the result of a Sensing unit. A processing unit usually associated with a small end unit is used to manage a process that enables the sensors nodes to interact with other nodes to perform a designated monitoring function. The trans-receiver unit connects the node to the network. A compatible antenna that can be an internal or external emu is that the most important part of the sensor element node uses the power function in every sensory component. It is therefore customary for the sensor node to select a location detection system, however it depends on the system. The extended STR is expected to represent Zig Bee's new network protocol for improved performance Packet Delivery ratio (PDR) and delays compared to STR and AODV. we have a tendency to introduce here the economic process of Advanced Shortcut Tree Routing technique (ASTR).**

*Keywords*— AODV, ZTR, ESTR, ASTR, ROUTING.

## I. INTRODUCTION

The trans-receiver unit connects the node to the network. A compatible antenna that can be an internal or external [1] is that the most important part of the sensor element node uses the power function in every sensory component. it is therefore customary for the sensor node to select a location detection system, however it depends on the system. Needed to move the sensor node if' needed to perform a specific task [2]. All of these subunits are likely to fit a module the size of a matchbox [3]. the size you want can be as small as a cubic inch thick enough to stay suspended in the air. Apart from the scale, there are other robust aspects of sensing node elements [4]. Sensors are placed away from a specific position or events. throughout this process we need large sensors with advanced techniques or the ability to distinguish between target and sound from the environment itself. most active sensors are sent to the correct location. The position of sensory and communication technology is technically advanced.

They transmit a series of events in the center of the center where real additions are made. As a large variety of sensory organs are transmitted at the worst possible distance to each other. Communication from there to the sensor node is advance because it consumes very little energy compared to a single hop connection. This is because energy saving is one of the most important aspects of the sensor node as node sensors usually carry an indestructible power source. therefore while the ancient network aims to understand the high level of service delivery, network agreements should focus entirely on energy savings. Multi-hop communications can also effectively overcome the form of signal transmission that results in wireless connectivity. There are several ways to deliver data packets from feed to route delivery that is the way to choose one method between them. The route is made up of quite a number of networks. but most of all we have a tendency to get involved in packet exchange networks.

## II. PROPOSED ALGORITHM

### *A.* Comparative analysis of routing protocol –

As we all have a habit of holding the Wireless sensing element Network that is the ideal solution for quick recording, processing and transmission of important information. The sensory elements are placed in an open area however the nodes are plagued by low battery power. Therefore, the power and health of the network are key factors in WSN. ZigBee has low cost, low power consumption and is useful for wireless nerve networks by selecting a series of communication rules. Route protocols such as AODV (Adherence to vector routing routing), Statistical analysis and performance analysis show that ESTR achieves higher performance compared to different routing processes. standard tests show that ESTR achieves better performance compared to other router agreements. however there are some limitations to the ESTR method. The performance of the multi-package delivery delivery relationships of STR can also be relatively small compared to AODV. The end-to-end performance of STR delays is not good compared to AODV. The extended STR is expected to represent ZigBee's new network protocol for improved

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performance Packet Delivery ratio (PDR) and delays compared to STR and AODV. we have a tendency to introduce here the economic process of Advanced crosscut Tree Routing technique (ASTR) to further improve the ESTR process delays..

### B. Evaluation of routing protocol

The evaluation of the routing performance of protocol includes average throughput, end-to-end delay, packet delivery ratio, and the routing overhead. They are measured with the number of control packets and memory consumption for routing.

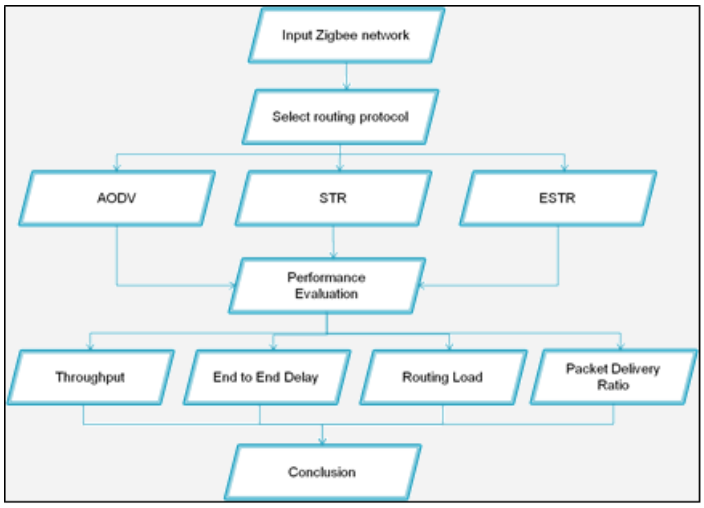


Fig.1.Selection parameters of routing protocol

## III. EXPERIMENT AND RESULT

Graphical result of the simulation time verses average energy consumption is shown in the following graph. Average energy consumption of advanced short cut tree routing is very low as compared to ad hoc network and extended short cut tree routing.

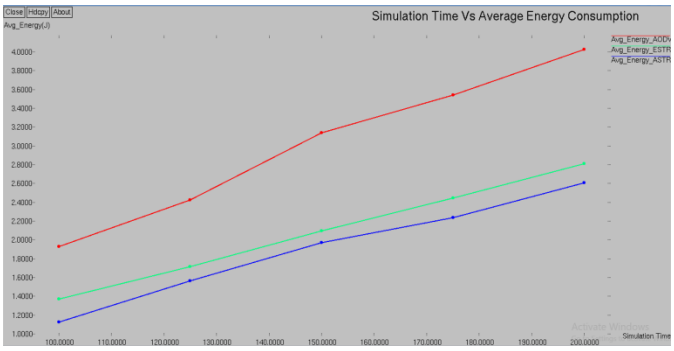


Fig. 2. Simulation time vs energy consumption

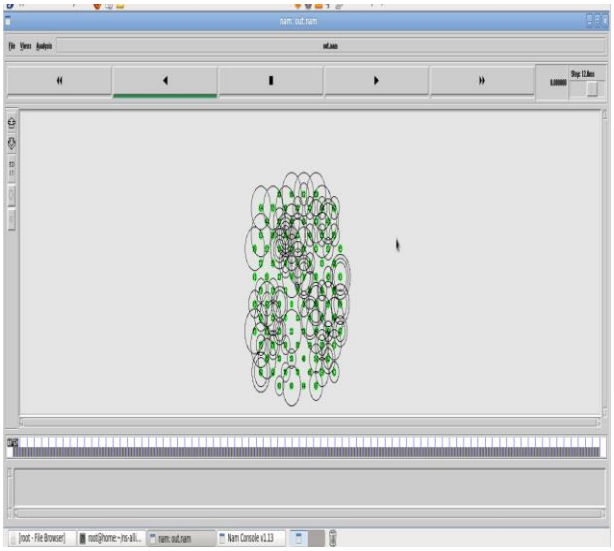

Fig.3.Simulated snap of parameters of routing protocol

Sensors are positioned far from the actual position or phenomena. during this approach giant sensors are needed that have the complicated techniques or capability to differentiate between the target and noise from the particular position

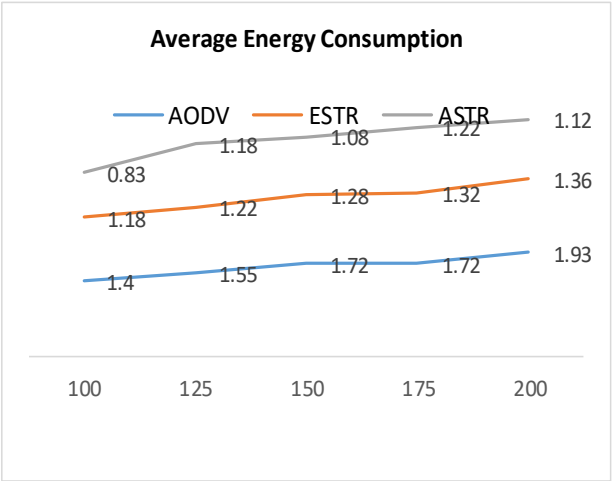


Fig.4 Graphical representation of parameters of routing protocol

## IV. CONCLUSION

This paper introduces the problem of ESTR routing and proposes a ASTR (proposed system) protocol that overcomes the overhead occurred when following the tree topology. In the proposed algorithm, the neighbor table that is originally defined in the ZigBee standard is used to find the optimal next


hop node that has the smallest remaining hop count to the destination. The shortcut tree routing algorithm is efficient in terms of both routing performance and time complexity

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