



A Novel Approach for Collision Tolerant Packet Scheduling for Underwater Data Transmission

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Abstract: This project deals with simulation and here the simulator used is Network Simulator. And sensor network are used to sense the collision of packets. Here we also use number of nodes to transmit packet. This simulation project deals with arrangements of packets, and transmitting those packets from source to destination. Here we transmit the packet in two different medium that is air medium and water medium. During the transmission of packets from source to destination, there packets may collided with each other. To avoid this collision we use two transmission schemes namely Collision Free Scheme (CFS) and Collision Tolerant Scheme (CTS).

Keywords: Dijkstra's algorithm; Poisson distribution technique; Number of nodes; sensor networks.

I. INTRODUCTION

The main problem while dealing with underwater acoustic sensor network with randomly distributed nodes is that it is hard to schedule packets and self localization. While dealing with packet scheduling, our goal is to minimize the localization time because as the localization time decreases quality of service increases. But the packet transmission is different in water, so we have the problem of node localization and packet scheduling with the quality of service. In this project, we are dealing with both packet scheduling and self localization in an underwater acoustic sensor network with randomly distributed nodes. Here we are considering two packet transmission schemes, namely collision free scheme and collision tolerant scheme. The required time is calculated for these two schemes and using these analytical and numerical results their performance are shown to be dependent on the circumstances.

II. LITERATURE SURVEY

The time taken for the limiting of the conflict plus least assessment for the packet loss is analytically gained for all of the noticeable nodes upon the lessening of the restricting period were the forceful set-up will be able to complete that raises the worth of the throughput [1]. The conduction is given by the on-demand means, it posses the interrupted point of communication. The performance in this work is very straightforward which is one of the foremost compensation were the anchors works autonomously and there is no need for the synthesis centre [2]. The confinement period for the shorter one lets the association to be worked in active way, which in future guides for getting the network with effectiveness with regards to the throughput. The lowest number of anchors will be firmed so as to reach the preferred possibility of self limiting [3]. For every scheme the flourishing concentration of the every noticeable node was the loss of the packets is understood, and it is preset the likelihood of the limiting of the sensor node. The algorithm used is the Gauss Newton that encompasses of the loss with respect to the packet [4]. It lowers the necessities of the sensory nodes so as to plan the packets onto the marine systems. To acquire the rightness of the restriction of the packets many of the constrictions were habituated [5].

III. EXISTING AND PROPOSED SYSTEM

Existing System

In the existing system the data is sent through underwater acoustic medium but there are lot of challenges such as low data rates and long propagation time all the problems decrease the quality of service. The existing system also contains the GPS system which will detect the nodes which will be hard to detect the nodes in underwater as the speed of the wave differs in the different medium and all the nodes has to be located in advance for the transfer of data from source to destination, s it makes lot of load on the system, the existing system also require the fusion centre for the storage of the data.

Proposed System

We proposed a system that is we consider a packet scheduling which do not have a fusion centre. The proposed system can work both with synchronized and acsynchronized anchors on demand of packet transfer. We consider a single hop



mechanism where the anchors are equipped with half duplex acoustic modems and can transfer data based on two types of scheduling schemes collision free scheme where the packets from source to destination and collision tolerant scheme where the packets will be controlled by the packet transmission time, so that each sensor node can receive sufficiently many more error free packets without the duplication.

IV. SYSTEM IMPLEMENTATION

Dijkstra's Algorithm

The gaps among the starting place vertex as that of the nearest vertices is been reorganized within the program, then the next step is being repeated. When there are huge set of the grid size it means that there is more number of the loops, whereas the graph mass is larger, the inner loops will be more. For that reason, these iterations will then be converted in the form of parallelism, which make the most of the size of the graph as well as the compactness.

The least amount of the gap price-tag for that of the adjoining vertex must be chosen as the subsequently the finest vertex for the next external ring iteration.

V. CONCLUSION

The setting-up of the packets are been considered with the help of the two classes that can be self-limited within the submarine acoustic sensory association, the primary class is depending upon the collision free intend while the subsequent is depending upon the collision tolerant plan. The time taken to spread the packet when used the collision free devise with the every one of the anchor are affixed in a way that not any of the sensor nodes practices a confliction, while the collision tolerant mean is prepared on behalf of the reason of the scheming the possibility of the conflict so as to make sure the limitation profitably by means of the already précised with consistency. These two classes presentation is concerning about the time that is desirable in support of the concentrating were revealed to be needy on the conditions. The time taken in favor of the restricting is a smaller amount when the collision tolerant practice is employed, but when the collision free one is applied then the time addicted is more. Other than the time, the CTS include numerous compensations. The most imperative one is the plainness that it incorporates on behalf of the idea of the accomplishment as the anchors without help work with each other from this it is found that it is spatially scalable without the necessitate to take it in support of union center.

VI. FUTURE ENHANCEMENT

The effort can be extended in impending days with the multi-hop network in which the level of the interaction with regards to the acoustic moderns will be very lesser than the range of a working locale.

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