Abstract- From past few decades mobile communication and web applications have made wireless network as a popular research. With technology of fast changing features wireless network moves frequently. Mobile nodes are occasionally confronted with reachability issue. In transmitting packets, generally void problem occurring is not fixed in advance. Thus resolving a void routing problem becomes a big issue. In wireless sensor network the void problem symptom and causing the routing failure have become the main challenge of greedy routing algorithm. The main focus of our paper is on void problem which occurs in WSN. So greedy routing algorithm protocol is introduced in our paper that will give guarantee to deliver data packets and also guarantee of resolving control overhead. This greedy routing algorithm is a combination of greedy forwarding algorithm and RUT scheme. The HCR technique is also utilized as a short cutting method to reduce routing hop. It is possible by listening to the neighbor’s traffic.

Keywords: Void Problems, Greedy Routing, Unreachability, Unit disk graph, GAR, localized algorithm, wireless sensor network.

1. INTRODUCTION

Smart environment represents the next development step in building industrial, home, transportation, shipboard systems automation. The smart environment is dependent on first and foremost on sensor data from the real world. Multiple sensors sense the data form different locations. Smart environment needs the information sensed by the sensors and also its internal working. This work is captured in biological system. Management Centers monitor and control the complexity of WSN like data acquisition network and a data distribution network.

Routing protocol such as YAGR and PAGER NEAR propagates the information observed by any unreachable node. The unreachability problem can only be either resolved by considerable routing overheads and significantly converging time or partially alleviated. Several routings are proposed to solve the unreachability problem, which may be dividing as non-graph-based. In these algorithms, the intuitive scheme is a latest in construct to a two-hop neighbor table for implementing the Greedy Forwarding algorithm. Whenever the unreachability problem occurs the network flooding mechanism is adapted within the GRA and PSR schemes. These also exists the routing protocols that adopt the backtracking. APR and LFR are used to memorized the path after the unreachability problems occur. Other routing protocols propagate and update the information observe unreachability node.

2. GREDDY ROUTING ALGORITHM

Mobile device or the location of device can determine the geographic routing. In most of the geographical routing algorithm only one-hop neighbor nodes geographical information will be used. The geographical routing algorithm does not require establishment and maintenance of complete path from source to destination node. The intermediate node does not store routing table. Function of node region makes the geographical routing simple. Greedy algorithm is a method where, in every step taking the best choice under current state and hopping for the best result. Here local optimal solution can determine global optimal solution based on the effective substructure problem. The problem can be divided into sub-problems to solve and final optimal solution can be found by combining all the optimal solutions. Geographical routing is dependent on greedy forwarding mechanism. Try to reach the destination by finding appropriate path and avoiding cyclic path. Forwarding packets from one node to other is based on location of current position and next node.

3. TERMINATION RULES

Data acquisition mechanism facilitates which data is obtained from which sensed node. Partial or complete solution to the targeted task is provided by optimization mechanism. Search node indicates which node will be best to contact next. Bounding conditions indicate which node shouldn’t be considered. Which
search expansion and optimization mechanism can be halted is indicated by termination criteria.

4. RELATED WORK

Wen-Jiunn Liu, Kai-Ten Feng have proposed a system for greedy routing method with anti-void traversal for WSN. They have develop an algorithm for greedy routing for wireless sensor network (WSN). They are used Greedy Anti Void Routing (GAR) protocol to solve void problems.

B.Chella Prabha, B. Anuradha, V.Kanimozhi, M. Dhivya have proposed a system enhanced greedy routing method with Anti-void Traversal for WSN. They have proposed an algorithm for GF(Greedy Forwarding) and RUT scheme. In this algorithm used GAR, HCR(Hope Count Reduction), Intersection Navigation(IN) mechanism.

Chiang Tzu-Chiang, Chang Jia-Lin, Tsai Yeu-Fu have proposed a system for Greedy Geographical Void Routing for WSN. They have proposed greedy geographical void routing algorithm. This algorithm can solve the void problem for WSN.

5. EXISTING SYSTEM

In existing system Greedy Forwarding, Greedy Anti- Void routing, planar perimeter algorithms are used. This algorithm generally searches the neighboring router of a destination. Mobile applications which requires more communication is used in the existing system. Let us consider the following example; the existing system is used to send data from source to destination in an organization. The algorithm finds the shortest path from source to destination whenever the client sends data. If the network goes offline during data transmission, then the data transmission is initiated again whenever the network is online. This becomes one of the drawback for current system which has to be avoided.

6. PROPOSED SYSTEM

Few algorithms are used in proposed system to avoid the drawback of existing system. Greedy Forwarding and Flooding Time Synchronization Protocol (FTSP) algorithms are used.

7. GREEDY FORWARDING:

In GPRS, forwarding node can be made locally ideal, here greedy choice is choosing packet’s next hop. If a node knows its nearer position, the locally ideal choice of next hop is closest to packets end position. Forwarding of such rules follows successive closer geographical hop. Simple signaling algorithm provides all nodes with their nearest position. Algorithm fidgets each signal transmission by 50% of the interval. Link level retransmission failure is indicated to neighbors the 802.11 MAC layer. Greedy Forwarding Algorithm only relies on knowledge of forwarding nodes nearest neighbor. This is its most important advantage. Greedy Forwarding Algorithm also comes with one drawback that is; there are topologies in which the only route to a destination requires a packet move temporarily farther in geometric distance from the destination.

8. FLOODING TIME SYNCHRONIZATION PROTOCOL (FTSP):

In FTSP root node broadcasts its local time and all the nodes receiving it synchronizes their clocks accordingly. The global time of any node is updated whenever it receives a message from root node. Also it broadcasts its own timing to its neighbor. Each and every node retains its highest sequence number and rootID of last received message. If time synchronization message is not heard by any node it declares itself as a new root. If a root hears a time synchronization message from another root with lower ID than itself, it gives up its root status.

9. SYSTEM ARCHITECTURE:
10. CONCLUSION

So we conclude that providing better quality and stable connection is an important issue. The communication void issue is the uncertain factor in the wireless network. This may create problems to communication any time. We can avoid the void problems to design an efficient and effective geographical routing. This will improve transmission quality which becomes very important. The densely deployed wireless nodes can help in reduce communication void happening in WSN. Thus enhancing the quality of the data transmission is very important which can be achieved by this strategy.

REFERENCES


