ISSN(Online): 2320-9801
ISSN (Print): 2320-9798

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization) Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department of CSE, JayShriram Group of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

An Enhanced Token Ring Technique for Overhead cut Detection Scheme in Distributed Mesh Networks

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Abstract: Detecting Cuts in Wireless Sensor Mesh Networks is a Challenging Task in Research Areas. Cut Detection is method to detect Cuts by node in the WSN. It is very important to detect cut and idle nodes in any type of network. The cut detection method has two types. One is called Disconnected from Source and another is called Connected but a cut occurred somewhere. In our proposed system we try to detect idle nodes and cut nodes using TOKEN RING methodologies, which eliminates the overall time and the data loss which was in the existing system. Here we use Token based PROBE message to analyze the networks with regard to Active and Idle nodes. If it encounters any active node it will receive an ACK. Based on the message received establish the network with eliminated idle nodes in order to achieve better performance and accuracy.. The CCOS method contains the PROBE message for identification purpose, it achieves maximum identification of idles nodes before transmitting the data

Keywords: WSMN, Token ring, Cuts and idles nodes & PROBE

I. INTRODUCTION

Due to failure of some of the nodes when it is occurred means, wireless sensor networks can get separated into multiple components. That is called cut. To detecting, the above said problem is known as cut detection. Here we are using the distributed algorithm then we have called the name as distributed cut detection algorithm. The distributed algorithm involves between the local communication and neighboring nodes. This algorithm allows only each node to detect a subset of nodes to detect CCOS (Connected, but Cut Occurred Somewhere) events and DOS (Disconnected from Source) events. This is useful tool for network repairing methods. There is two nodes are disconnected means, there is no path between them. Existing cut detection system used only the wired networks. Thus the every nodes needs to communicate within its communication range. This is only suitable for the static network configuration. It doesn't support the single path routing approach.

II. LITRATURE REVIEW

2.1Routing:

Router is mainly used for the wireless purpose. Thus the wireless router is used for Wireless Local Area Network.(Example: Home and small office networks).It permits the internet and local area network access.Normally,thus the wireless router is directly connected to the wired or the wireless LAN.The router is also used for the firewalls. The traditional routing techniques are flooding and gossiping. The another type of the routing technique is current routing techniques Flat routing, Hierarchical routing, Location based routing

2.2Flooding:

It is mainly used for the routing in the wireless sensor networks. It sends packets to all the neighbor nodes.

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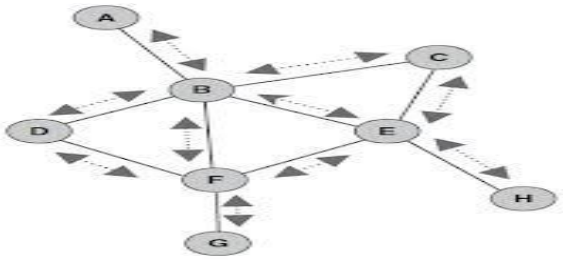
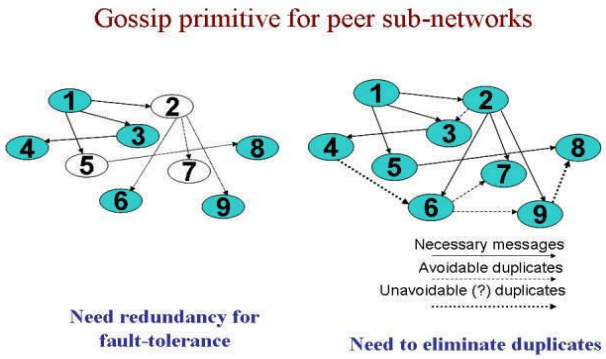


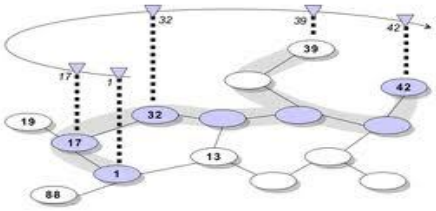
2.3 Gossiping:

It is fully based on the flooding. It sends packets to the randomly selected neighbor nodes.



2.4 Flat routing:

The flat routing is mainly having the directed diffusion and sensor protocols for information via negotiation.



2.5 Hierarchical routing:

This routing is mainly having the low energy adaptive clustering hierarchy protocol and threshold sensitive energy efficient protocols.

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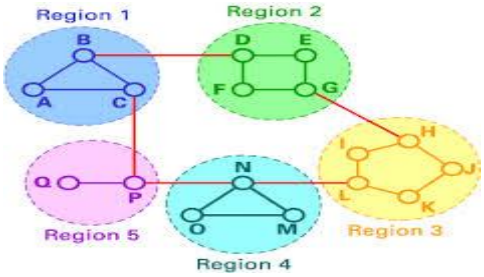
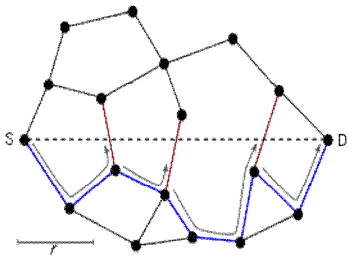


2.6 Location based routing:

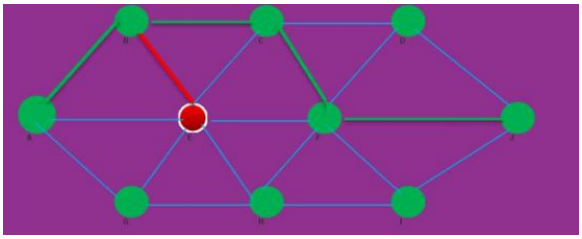
This routing is mainly having the geographic and energy aware routing.



III. PROPOSED WORK

A. Connection Establishment:

The main purpose of the connection creation is security and connected via Bluetooth. Who are they using the wireless sensor network, they needs the security. Example: Industrial end users, governments, media, researchers. The major advantages of the industrial wireless networks and short range (security) ease of installation, high reliability. Here we are using the licensed and unlicensed ranges are, the limited range 2400-2480MHz.The unlicensed frequency ranges are the 2.402-2.480GHz.There are three levels of access services in Bluetooth security, they are ,(a) It requires both the authorization and authentication,(b)It requires only the authentication, (c) It default security for legacy applications.



B. Data Transmission:

In the data transmission our main goal is to identify, where the sensor is being idle. The sensor modes having the two main purposes, one is wake up and another one is sleep. In the wake up process includes transmission, reception, idle and the sleep process having the sleep. Here the good thing is reduce the time.

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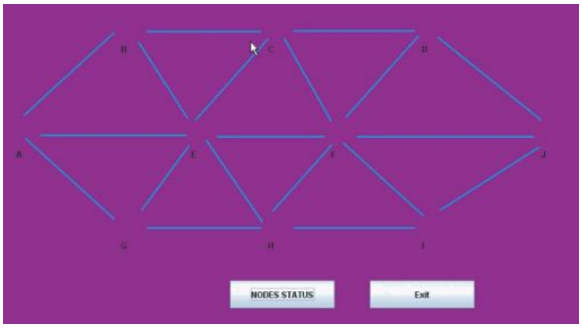
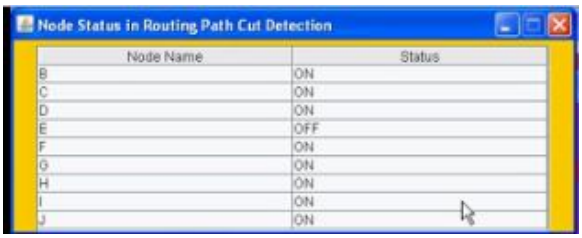


C. Performance Measurements:

By using the graphical representation we can measures the performance in between the time and space. Some of the time synchronizations are, (a) Send or receive time, (b) Medium access time, and (c) Propagation time. The performance measures varied in the ranges are 802.11a,802.11b,802.11g.



NEW PROPOSED PROBE TOKEN RING ALGORITHM:

Then

Pc → Pi..... Pi (Threshold Value starting & Ending Position is same)

Pc → CCOS Attacked

Picc → Token Ring

P1cc → true

P2cc → true

P3cc → false

P4cc → true

P5cc → true (where I → 1, 2.....5)

P4cc CCOS Attacked

Stop

CC Counter Clockwise Picc → Node in the network

Pi ..... Pi -→ Sending data to all nodes

C Max – Threshold Max

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Data Transmission With NO CUT Identified:

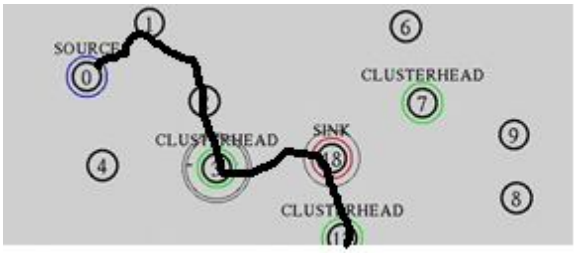


Figure 1 No Cut Identified

Figure 2 Cut Identified

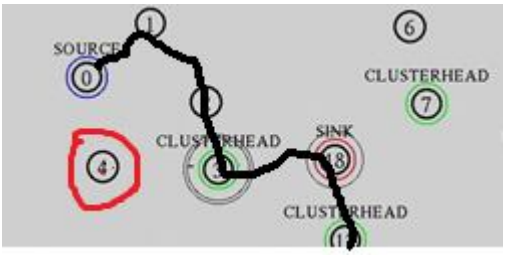
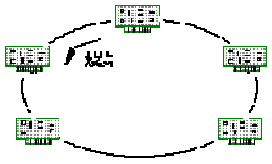
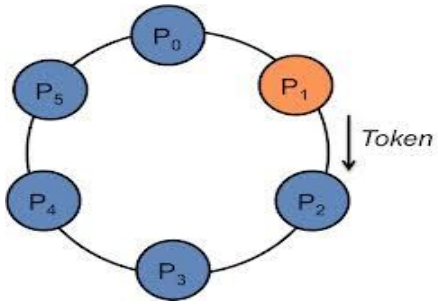


Figure 3 Cut Detected

Effective Token Ring Scenario based Routing:





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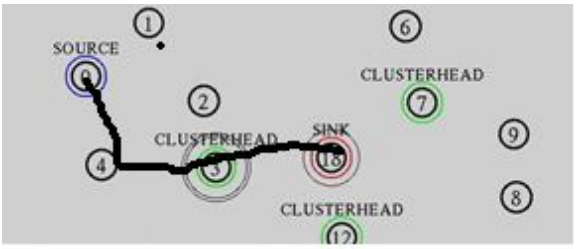
IV. CONCLUSION

In this paper, we described our cover-sense-inform framework WSNs using DDOS algorithm, where k-coverage, sensor scheduling, and data forwarding are jointly considered with help of TOKEN Ring technologies. By using this we can find the idle nodes with help of token ring. Based on the request and response from host to destination the idleness of the neighbor node will be identified. It reduces the long time packet loss and the transmission gap between sources to destination. Once the connection has been established between nodes the data availability of nearest vertices will be checked. Because the cut will be identified after the establishment of connections



REFERENCES

[1] G. Dini, M. Pelagatti, and I.M. Savino, "An Algorithm for Reconnecting Wireless Sensor Network Partitions," Proc. European Conf. Wireless Sensor Networks, pp. 253-267, 2008.
[2] N. Shrivastava, S. Suri, and C.D. To´ th, "Detecting Cuts in Sensor Networks," ACM Trans. Sensor Networks, vol. 4, no. 2, pp. 1-25, 2008.
[3] H. Ritter, R. Winter, and J. Schiller, "A Partition Detection System for Mobile Ad-hoc Networks," Proc. First Ann. IEEE Comm. Soc. Conf. Sensor and Ad Hoc Comm. and Networks (IEEE SECON '04), pp. 489-497, Oct. 2004.
[4] M. Hauspie, J. Carle, and D. Simplot, "Partition Detection in Mobile Ad-Hoc Networks," Proc. Second Mediterranean Workshop Ad-Hoc Networks, pp. 25-27, 2003.
[5] P. Barooah, "Distributed Cut Detection in Sensor Networks," Proc. 47th IEEE Conf. Decision and Control, pp. 1097-1102, Dec. 2008.
[6] A.D. Wood, J.A. Stankovic, and S.H. Son, "Jam: A Jammed-Area Mapping Service for Sensor Networks," Proc. IEEE Real Time Systems Symp., 2003.
[7] P. Bose and P. Morin, "Online Routing in Triangulations," SIAM J. Computing, vol. 33, no. 4, pp. 937-951, 2004.
[8] P. Bose, P. Morin, I. Stojmenovic, and J. Urrutia, "Routing with Guaranteed Delivery in Ad Hoc Wireless Networks," ACM/ Kluwer Wireless Networks, vol. 7, no. 6, pp. 609-616, 2001.
[9] B. Bolloba´ s, The Art of Mathematics: Coffee Time in Memphis. Cambridge Univ. Press, 2006.
[10] N. Bulusu, J. Heidemann, and D. Estrin, "GPS-Less Low Cost Outdoor Localization for Very Small Devices," IEEE Personal Comm., vol. 7, no. 5, pp. 28-34, Oct. 2000.