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Introduction to Void Node and Routing For Wireless Sensor Network

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***Abstract*: Wireless sensor networks (WSNs) are becoming more popular everyday due to their major and important role in different area. we need to study the actual changes happen in underwater environment, the data gathering of Wireless Sensor is still limited at some range just because of the acoustic channel communication characteristics. GEDAR is routing protocol that routes data packets which contain some information from sensor nodes to multiple sinks at the sea's surface. When the node is in a void region that means the data cannot send further. So in underwater the routing protocol is helpful.**
***Keywords*: Void Node, Wireless Sensor Network, Routing, Void Region, UWSN's.**

I. INTRODUCTION

In our earth 75% covered by water that can be river and oceans.as water is a denser medium the waves get absorbed in water so their is need of best routing protocol which is efficient.Underwater sensor network able to perform operation into long terms non time critical aquatic monitoring applications where GPS support is not required. The architecture of routing protocols easily adapt to changing topology. Reduce energy consumption and the network nodes network conflicts as much as possible.the latest ,GEDAR uses the greedy forwarding strategy to advance the packet , at each hop, towards the surface sonobuoys. During the transmissions, each node locally determines if it is in a communication void region by examining its neighborhood. If the node is in a communication void region, that is, if it does not have any neighbor leading to a positive progress towards some surface son buoy , it announces its condition to the neighborhood and waits the location information of two hop nodes in order to decide which new depth it should move into and the greedy forwarding strategy can then be resumed. After, the void node determines a new depth based on 2-hop connectivity such that it can resume the greedy forwarding.

II. PROPOSED ARCHITECTURE

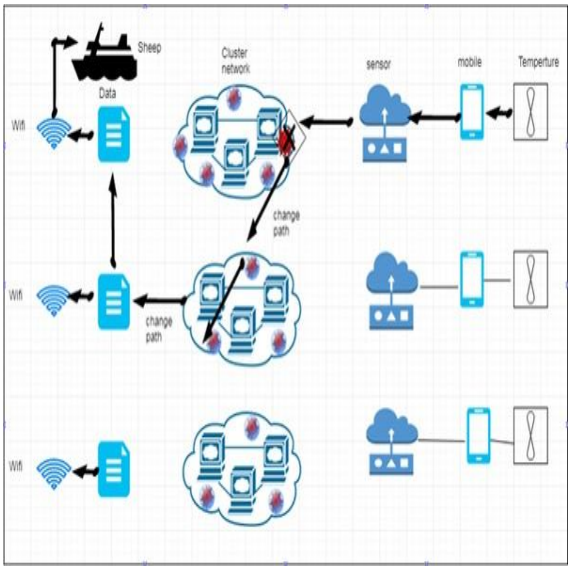


Fig. 1.Architecture

Each Node send information to next Sensor Node and Void node recovery procedure is used when the node fails to forward data packets using the greedy forwarding strategy. Instead of message-based void node recovery procedures, GEDAR takes advantage of the already available node depth adjustment technology to move void nodes for new depths trying to resume the greedy forwarding.

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III.FUTURE SCOPE

A. We can find a shortest path for data transmission by using various algorithms.
B. Clustering is a technique that increases system scalability and reduces energy consumption.
C. Underwater communication is also possible with non-acoustic communication techniques like radio frequency, magnetic induction, and underwater free-space optics.

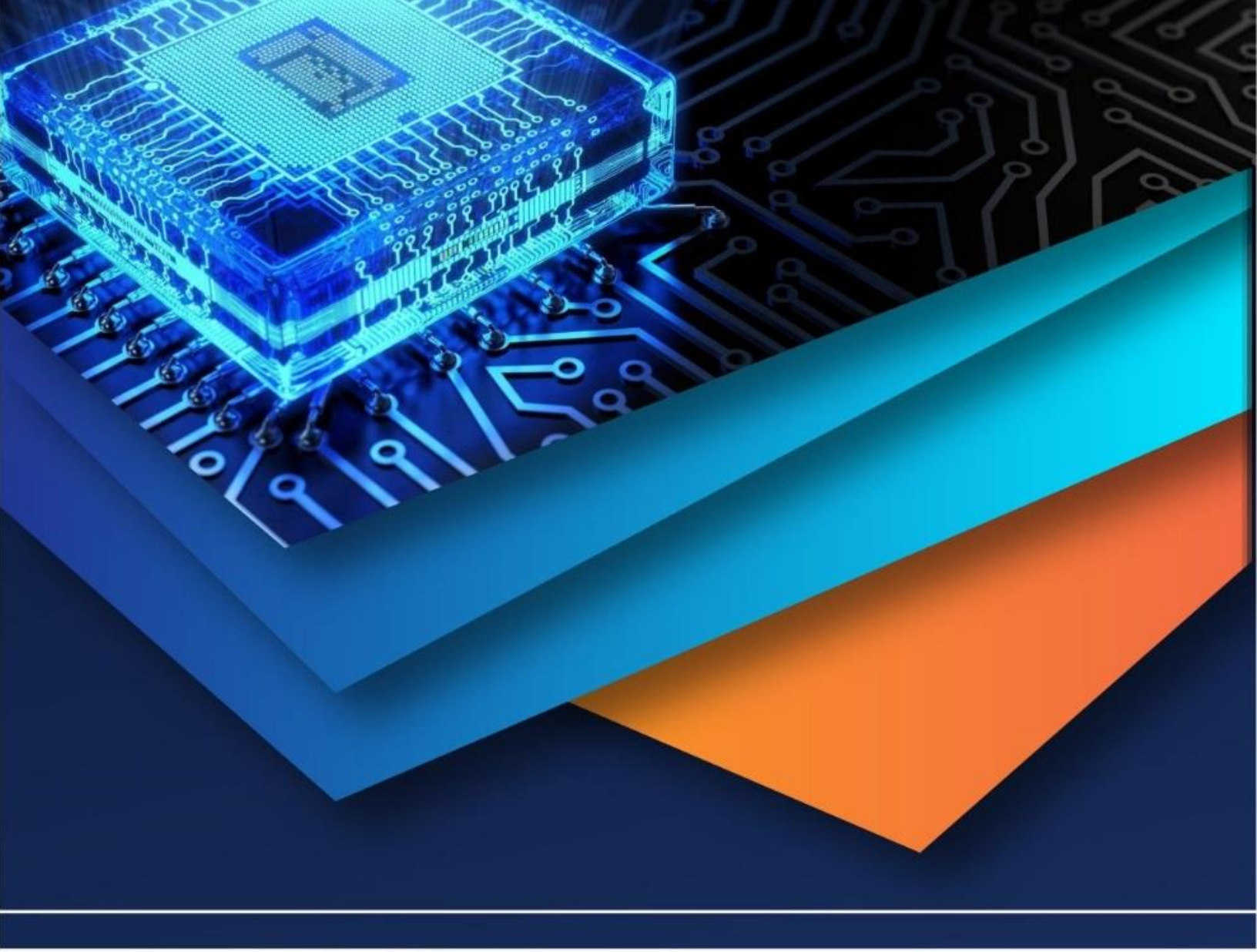
IV.CONCLUSIONS

GEDAR is a simple and scalable geographic routing protocol. takes advantage of the broadcast communication medium to greedily and opportunistically forward data packets towards the sea surface sonobuoys. Simulation Result also Showed that GEDAR significantly improves the network performance when compared with the baseline solutions, even in hard and difficult mobile scenarios of very dense networks.

REFERENCES

[1] Aiswarya Das , Kulamala Vinod Kumar , Madhuri Rao, " Current State of Art Techniques in Underwater Wireless Sensor Network"
[2] M. O'Rourke, E. Basha, and C. Detweiler, "Multi-modal communications in underwater sensor networks using depth adjustment,"in Proc. 7th ACM Int'l Conference on Underwater Networks andSystems (WUWNet), 2012, pp. 31:1–31:5.
[3] M. Erol, F. Vieira, and M. Gerla, "AUV-Aided localization for underwater sensor networks," in Proc. Int'l Conf. on Wireless Algorithms, Systems and Applications (WASA), 2007, pp. 44–54.
[4] M. Erol-Kantarci, H. Mouftah, and S. Oktug, "A survey of architectures and localization techniques for underwater acoustic sensor networks," IEEE Commun. Surveys Tuts., vol. 13, no. 3, pp. 487–502, 2011.
[5] Z. Yu, C. Xiao, and G. Zhou, "Multi-objectivization-based localization of underwater sensors using magnetometers," IEEE Sensors J.,vol. 14, no. 4, pp. 1099–1106, 2014.
[6] J. Jaffe and C. Schurgers, "Sensor networks of freely drifting autonomous underwater explorers," in Proc. 1st ACM Int'l Workshop on Underwater Networks (WUWNet), 2006, pp. 93–96.
[7] Z. Zhou et al., "Scalable localization with mobility prediction for underwater sensor networks," IEEE Trans. on Mobile Computing., vol. 10, no. 3, pp. 335–348, 2011.
[8] E. Cayirci et al., "Wireless sensor networks for underwater survelliance systems," Ad Hoc Networks, vol. 4, no. 4, pp. 431–446, 2006.
[9] M. Erol, L. F. M. Vieira, and M. Gerla, "Localization with dive'n'rise (DNR) beacons for underwater acoustic sensor net works," in Proc. 2nd Workshop on Underwater Networks (WuWNet),2007, pp. 97–100.
[10] L. F. M. Vieira, "Performance and trade-offs of opportunistic routing in underwater networks," in Proc. IEEE Wireless Communications and Networking Conference (WCNC), 2012, pp. 2911–2915.
[11] L. M. Brekhovskikh and Y. Lysanov, Fundamentals of Ocean Acoustics. Springer, 2003.
[12] Mohd Murtadha Mohamad and Mohammad Taghi Kheirabadi,"Energy Efficient Opportunistic Routing Algorithm for Underwater Sensor Network".

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