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Effective Stint Harmonisation For Mobile In Marine Sensor Networks

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ABSTRACT:

Deploy underwater sensors to record data during the monitoring mission, and then recover the instruments. This approach has the problems on Real time monitoring is not possible. No interaction is possible between onshore control systems and the monitoring instruments. Open nature of mobile marine sensor networks are indeed to communication of peers, however in these type of networks unmeasured and adapt to unpredictable environments .And spatial diversity and density of sensor/actuator nodes.So in this paper we are evalution of better solution for under ground networks and eliminate malicious attacks of the mobile marines. Our experimental results are shows efficacious and forcible for mobile mariens.

Key words: - acoustic communications, acoustic networks, seismic monitoring, time synchronization, underwater sensor networks,

I INTRODUCTION:

In recent years, underwater wireless sensor networks (UWSNs) have drawn considerable and increasing attentions from researchers. For most of UWSNs applications, they either benefit from or require time synchronization service. However, in order to do time synchronization in UWSNs, three key challenges have to be addressed. First, acoustic channels features long propagation delays, which make the conventional two-way delay measurements quite inefficient and inaccurate. Second, since all nodes move continuously with water currents, underwater networks are highly dynamic networks, which makes the synchronization protocols for static networks unsuitable here. Last but not the least, the underwater nodes are usually powered by battery, for which it is hard (if not impossible) to get replaced. Synchronization protocols which need frequent message exchanges do not fit here. Underwater sensor networks have many potential applications. Here we briefly consider seismic imaging of undersea oilfields as a representative application.Today, most seismic imaging tasks for offshore oilfields are carried out by a ship that tows a large array of hydrophones on the surface. The cost of such technology is very high, and the seismic survey can only be carried out rarely, for example, once every 2–3 years. In comparison, sensor network nodes have very low cost, and can be permanently deployed on the sea floor. Such a system enables frequent seismic imaging of

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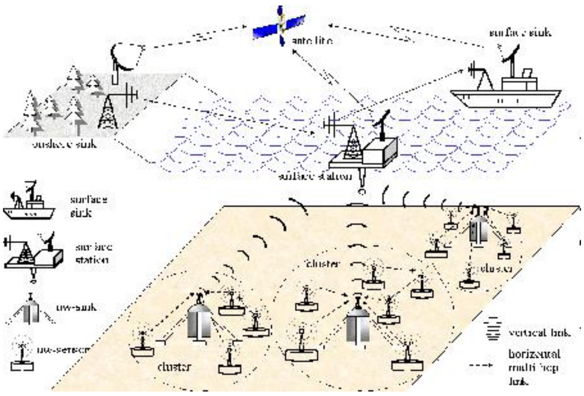
reservoir (perhaps every few months), and helps to improve resource recovery and oil productivity.

II RELATED WORK:

UW-A channel characteristics:Long propagation delay Signal cannot reach dest. Instantaneously Narrow communication bandwidth Low data rate Bandwidth must be shared by all nodes Passive sensor node mobility Dynamic neighborhood makes coordination very difficult if not impossible Mobility and density are two parameters that vary over different types of deployments of underwater sensor networks. Here, we focus on wireless underwater networks, although there is significant work in cabled underwater observatories, from the sound surveillance system military networks in the 1950s, to the recent Ocean Observatories Initiative [10].

Mobile sensors report events to submarines Proactive (OLSR), Reactive Routing (AODV), or Sensor data collection (Directed Diffusion) All require route discovery (**flooding**) and/or maintenance Not suitable for bandwidth constrained underwater mobile sensor networks (collision + energy consumption).Geographical routing is preferable, but requires geo-location service to know the destination's location.Goal: design an efficient location service protocol for a SEA swarm.



III PROPOSED CONCEPT:

We propose **R-MAC** A reservation-based MAC protocol Targeted networks Traffic unevenly distributed & sporadic Energy-efficiency is the highest priority Channel utilization is not a critical concern.Each node works in cycles , Each node wakes/sleeps periodically A node sends data to another node Sender reserves a time slot in receiver Receiver informs all neighbors of reserved time slot Sender sends data in reserved time slot How to make reservation? Measuring propagation delays Scheduling transmissions Three phases Latency detection,Measure latencies between neighbors,Period announcement Collect period start times of neighbors.Periodic operation Reserve slot in intended node and send data. Before describing specific applications, we briefly review the general architecture we envision for an underwater sensor network. Figure2 shows a diagram of our current tentative design. We anticipate a tiered deployment, where some nodes have greater resources.

1) Ocean sampling Networks of sensors and AUVs, such as the Odyssey-class AUVs[2] can perform synoptic, cooperative adaptive sampling of the 3D coastal ocean environment. Experiments such as the Monterey Bay field experiment demonstrated the advantages of bringing together sophisticated new robotic vehicles with advanced ocean models to improve the ability to observe and predict the characteristics of the oceanic environment.

2) Undersea explorations Underwater sensor networks can help detecting underwater oilfields or reservoirs, determine routes for laying undersea cables, and assist in exploration for valuable minerals.

3) Disaster prevention Sensor networks that

measure seismic activity from remote locations can provide tsunami warnings to coastal areas, or study the effects of submarine earthquakes (seaquakes).

IV CONCLUSION:

Applications drive the development of underwater sensing and networking.Inexpensive computing, sensing and communications have enabled terrestrial sensor networking in the past couple of decades; we expect that cheap computing,combined with lower cost advanced acoustic technology, communication and sensing, will enable underwater sensing applications as well.While research on underwater sensor networks has significantly advanced in recent years, it is clear that a number of challenges still remain to be solved.With the flurry of new approaches to communication, medium access, networking and applications, effective analysis, integration and testing of these ideas is paramount—the field must develop fundamental insights, as well as understand what stands up in practice. For these reasons, we believe that the development of new theoretical models (both analytical and computational) is very much needed, and that greater use of testbeds and field experiments is essential; such work will support more accurate performance analysis and system characterization,

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