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NETWORK TIME STAMPING BASED INTER DOMAIN COMMUNICATION

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Abstract:

This paper introduces a cross-layer operation model that can improve the energy consumption and system throughput of IEEE 802.15.4 MWSNs. The location of the mobile nodes is embedded in the routing operation after the route discovery process. The location information is then utilized by the MAC layer transmission power control to adjust the transmission range of the node. This is used to minimize the power utilized by the network interface to reduce the energy consumption of the node and n terms of energy consumption by roughly 10%, twice less control packet overhead, on-par end-to-end delays and comparative packet delivery ratios.

Key words – MAC, Twiss less control, Overhead.

1. INTRODUCTION

The more modern networks are bi-directional, enabling also to control the activity of the sensors. The development of wireless sensor networks was motivated by military applications such as battlefield surveillance; today such networks are used in many industrial and consumer applications, such as industrial process monitoring and control, machine health monitoring and so on. The WSN is built of "nodes" – from a few to several hundreds or even thousands, where each node is connected to one (or sometimes several) sensors. Each such sensor network node has typically several parts: a radio transceiver with an internal antenna or connection to an external antenna, a microcontroller, an electronic circuit for interfacing with the sensors and an energy source, usually a battery or an embedded form of energy harvesting.This capability is enabling networks of very low cost sensors that are able to communicate with each other using low power wireless data routing protocols

2. PROPOSED SYSTEM

Wireless sensor network consists of spatially distributed autonomous sensors to monitor environmental conditions such as sound, temperature, pressure etc. Sensor nodes can sense and detect events in the region and communicate data back to the Base Station (BS). Wireless Sensor Network has become most interesting area of research. One of the major reasons for performance degradation in Wireless sensor network is the overhead due to control packet and packet delivery degradation. Clustering in cross layer network operation is an efficient way manages control packet overhead and which ultimately improve the lifetime of a network. The cross-layer operation model optimize the overheads in multiple layer and ultimately the use of clustering will reduce the major overheads identified and their by the energy consumption and throughput of wireless sensor network is improved. The proposed model operates on two layers of network ie., Network Layer and Transport Layer and Clustering is applied in the network layer .

3. WIRELESS NETWORKS

Wireless Personal Area Networks (WPANs) interconnect devices within a relatively small area that is generally within a person's reach. For example, both Bluetooth radio and invisible infrared light provides a WPAN for interconnecting a headset to a laptop. Wireless LANs are often used for connecting to local resources and to the Internet. A Wireless Local Area Network (WLAN) links two or more devices over a short distance using a wireless distribution method, usually providing a connection through an access point for Internet access. The use of spread-spectrum or OFDM technologies may allow users to move around within a local coverage area, and still remain connected to the network. Products using the IEEE 802.11 WLAN standards are marketed under the Wi-Fi brand name.

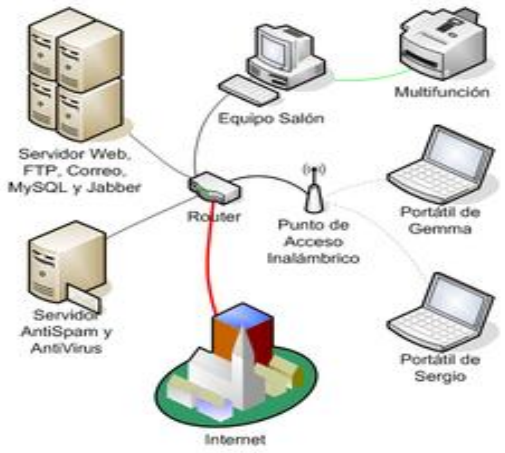

Fig.1.Wireless LAN

Fixed wireless technology implements point-to-point links between computers or networks at two distant locations, often using dedicated microwave or modulated laser light beams over line of sight paths. A typical system contains base station gateways, access points and wireless bridging relays. Other configurations are mesh systems where each access point acts as a relay also. When combined with renewable energy systems such as photo-voltaic solar panels or wind systems they can be stand alone systems.

4. NETWORK ELEMENTS

Wireless NEs are products and devices used by a wireless carrier to provide support for the backhaul network as well as a Mobile Switching Center (MSC). Reliable wireless service depends on the network elements at the physical layer to be protected against all operational environments and applications What are especially important are the NEs that are located on the cell tower to the Base Station (BS) cabinet. The attachment hardware and the positioning of the antenna and associated closures/cables are required to have adequate strength, robustness, corrosion resistance, and rain/solar resistance for expected wind, storm, ice, and other weather conditions. Requirements for individual components, such as hardware, cables, connectors, and closures, shall take into consideration the structure to which they are attached. Compared to wired systems.

5. RESULT ANALYSIS

Wireless Networks to create the no of nodes. The packets to send and receiving through the source to destination. It's based the scheme of packets delivered for ACK packet drop on the nodes. In this network to creating the source and destination node of the network and transmit the data to processing on their whole networking. Wireless access points are also often close to humans, but the drop off in power over distance is fast, following the inverse-square law. Wireless node placed intermediate area. Each node knows its location relative to the sink. The access point has to receive transmit packets then send acknowledge to transmitter. Graph is an essential part of display a result, so we plot a graph to show a various result comparison with packets, throughput, energy efficient and etc.

CONCLUSION

One of the major reasons for performance degradation in Wireless sensor network is the overhead due to control packet and packet delivery degradation. Clustering in cross layer network operation is an efficient way manages control packet overhead and which ultimately improve the lifetime of a network. All these overheads are crucial in scalable networks. But the clustering always suffers from the cluster head failure which needs to be solved effectively in a large network. As the focus is to improve the average lifetime of sensor networks the cluster head is selected based on the battery life of nodes. The cross-layer operation model optimize the overheads in multiple layer and ultimately the use of clustering will reduce the major overheads identified and their by the energy consumption and throughput of wireless sensor network is improved.

REFERENCES

1. T. Melodia, D. Pompili, and I. F. Akyldiz, (2010) "Handling mobility in wireless sensor and actor networks," IEEE Trans. Mobile Comput., vol. 9, pp. 160–173.
2. L. Shi and A. Fapojuwo, (2010) "TDMA scheduling with optimized energy efficiency and minimum delay in clustered wireless sensor networks," IEEE Trans. Mobile Comput., vol. 9, pp. 927–940.
3. E. Felemban et al., (2010) "SAMAC: A cross-layer communication protocol for sensor networks with sectored antennas," IEEE Trans. Mobile Comput., vol. 9, pp. 1072–1088.
4. M. C. Vuran and I. F. Akyildiz, (2010) "XLP: A cross-layer protocol for efficient communication in wireless sensor networks," IEEE Trans. Mobile Compute., vol. 9, pp. 1578–1591.
5. J. Wang, D. Li, G. Xing, and H. Du,(2010) "Cross-layer sleep scheduling design in service-oriented wireless sensor networks," IEEE Trans. Mobile Compute., vol. 9, no. 11, pp. 1622–1633.