Prospect Convenient Steadfast Procedure in Wireless Sensor Network

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Article Info	ABSTRACT
	This article objective is to improve the steadfast routing in Wireless Sensor Networks with little interfering and avoid packet collision. In the scheme, the entire node has the option of electing next Data Communication Node (DCN). The next data communication node is chosen depend on the intensity of link, remaining energy, and the node with distance towards the Base Station. Thus, the sender node transmits the information to the best DCN. Instantly, the DCN sends the acknowledgement (ACK) along with the number of packets received back to the node from which it obtains the data. The sender node assures the delivery of the transmitted packets by comparing the value of number of packets sent with the value obtained with the acknowledgement. If they are equivalent, it will send the verification identity to the DCN. If it is not equivalent, it will decide another node with highest link intensity. After that, the data chooses the DCN and repeat the process until the data reaches the Base Station.

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1.   MATERIALS AND METHODS

Wireless Sensor Networks (WSN) contains number of sensor nodes and they are having the wireless connection with each other. The Base Station controls the sensor nodes. The sensor nodes are observing its environment to get the particular attribute according to its configuration.

Energy aware routing for real- time and reliable communication [1] used to provide reliable data delivery in WSN. In this scheme, the sensor selects the route based on energy, latency and consistency path. This information is collected from the neighbor nodes. Then that node finds out the likelihood value of choosing the path. The path with low energy cost is expected to be selected in this scheme. Position based Power efficient protocol is represents the consistency of packet transfer that is presented in [2]. In this scheme introduced fault tolerant mechanism to find out the failure link and the fault sensor node and also to reconstruct the failed path. In [3], the self-selecting reliable path routing protocol is proposed. This protocol was overcome the three challenges such as delay, link failure and energy while transmitting the data from source to destination. A Reliable multi-hop routing protocol [4] is proposed to find out feasible shortest path between source and destination. The author mainly considers the energy and memory space while routing the data packets. These parameters are decides that the network lifetime. Reliable Routing Protocol is introduced in [5]. This protocol provides reliable route by using the parameter reliable factor. Every node asserts the reliability factor value. The source node sends the route request to the node with high reliability that is determined by the reliability factor maintained by the node. Genetic algorithms based enhanced K Strange points clustering algorithm is also describes that [6]. Media Access Delay and Throughput Analysis of Voice Codec with Silence Suppression on Wireless Ad Hoc Network explained in [7]. Wireless sensor network is placed on various regions to senses for the dangerous gases into atmosphere where in peak areas of citizens

moving around, it helps for army soldiers to fire detection in forests as well as for communication among them using algorithms for privacy connection in sensor nodes [8].

2.   POTENTIALITY TIMESERVING RELIABLE ROUTING

Here, the sender node is not going to identify the entire pathway before the data transmission. The sender node sends the data in the hop-by-hop method. The Sender firstly chooses the next DCN based on its capability to transmit the data to the Base Station. The capability is decided based on its link intensity, and remaining energy. Then obtaining the data packets, the DCN node send the ACK back to the node from which it obtains the data. The ACK packet contains the information about the packets obtained rate. The sender assures that, whether all data packets have been reached or not. If the sending data packet and receiving data packets are equal, the sender sends the verification identity to the DCN. Then this process is continuous until the sender reaches the data to Base Station. In this scheme, every DCN node follows node ACK pattern. Therefore, it avoids the packet collision and radio interference.
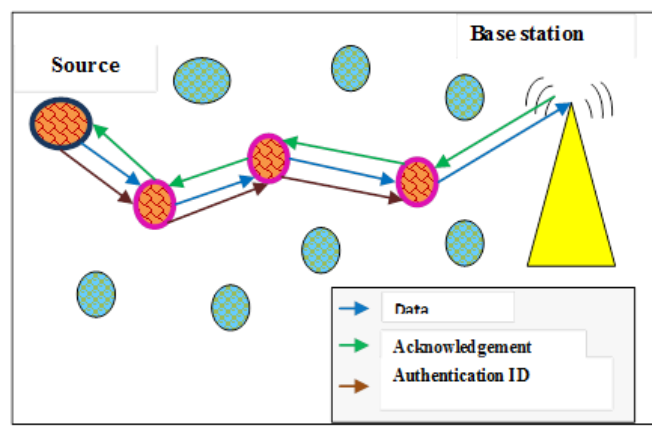

Figure 1. Example topology of PCSP scheme

Algorithm:

```
PCSP routing {
        Set Ssender
        Set BS Base Station
        While {DCN! = BS} {
                Foreach n in Neighbor List {
                        If {n with high capability}
                                Set DCN n
                }
                S communicate the data to DCN
                DCN send ACK to S // ACK contains packets obtained rate
                //Source node analysis
                If {n send rate==N obtained rate} {
                        Verification key =Rand ()*energy/Distance
                }
                S sends the verification key to BS
                Set S DCN
        }
}
```

PCSP is explained by using the example Figure 1. In this figure few sensor nodes are distributed randomly in the sensing environment. The sensor desires to communicate the gathered data to the Base Station. But it is not available in communication range. Thus, it requirements for communicate the data through some DCN nodes to reach the Base Station. The PCSP scheme finds out the route between the sender and Base Station. Initially the sender elect the next DCN towards the Base Station based on the remaining energy, link intensity and distance to the Base Station. The sender communicates the entire data to

the best DCN. Instantly the best DCN sends the acknowledgement back to the sender. To offer the security, the sender creates the verification key by using the following formula;

$$VK = Rand()*[\frac{\mathrm{Re}\,maining\;Energy}{Dis\tan ce}]$$

(1)

After getting the verification key only, the DCN node can transmit the data to the next DCN node. This process will be continued until the data packet reaches the Base Station.

3. CONCLUSION

Prospect convenient steadfast procedure provides the reliability in multi hop Wireless Sensor Network. In this scheme, he route from sender to Base Station is constructed dynamically. The Data Communication Node among the sender and Base Station is chosen based on the link intensity, distance and remaining energy. Hence, the PCSP reduces the interference and avoids packet collision in the network.

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