In this paper, we propose a simple distributed protocol to construct a virtual coordinate scheme (VCA) based on hop count to four beacon (or reference) nodes. In this proposed protocol each node only maintains the hop count to these known location nodes (beacons) and do not require the physical or real location information. We put the assumption that all nodes are deployed in a rectangular shape area and the sink node (or base station) is located at one of the vertex of this rectangle. The sink node is also used as one of the milestone (beacon) nodes. Three other sensor nodes are chosen as beacon nodes placed close to the vertex of the rectangular area like sensor network in our designed protocol. A hop count to four beacon nodes is contained by the virtual coordinate vector, and by using this virtual coordinate vector; a node can make a decision for greedy routing. The simulation results for proposed protocol shows that the virtual coordinate system can support the standard geographic routing more efficiently than the real coordinate system.
Reference


**Index Terms**

Computer Science          Wireless Networks

**Key words**

Security                   Wireless

Sensor Networks (WSN)        Denial of Service (DoS)

threats