Abstract

Sensor network is critical real-time network used in application-specific areas. The restricted energy and coverage increases the communication criticality. Because of this, the network follows an architecture-driven communication for effective resource utilization. In this paper, a mobility adaptive cluster optimization model is presented to improve the network communication. At the earlier phase of this model, the individual node analysis is applied under load, stability, energy, and connectivity parameters. Based on which the cluster election is performed. After identifying the clusters, the range-driven separation is performed to provide the single or multihop path. In the final stage, the route optimization is provided for external cluster nodes as well as aggregative cluster nodes. For route generation, a genetic-driven evolutionary process is defined. The fitness rule for genetic is applied under stability, distance, and energy parameters. Finally, all the cluster heads will deliver the aggregative data to the base station. The simulation results show that the model has improved the network life and communication.

References


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Index Terms
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WSN, Fitness rule of Genetic algorithm.