Improving Displacement Number and Overheads of DRFN using Artificial Bee Colony Technique in WSNs

Abstract

Failure in Wireless Sensor Networks is common due to deployment of sensor nodes in harsh or hostile environment with limited power backup. Node failures could degrade the efficiency of sensor networks. Thus, failure detection and recovery techniques are very crucial for effective performance of nodes in Wireless Sensor Networks. In this paper we presented an improved DRFN technique by improving its failover mechanism. The failure handling scheme will be improved by using Artificial Bee Colony (ABC) based optimization technique. We analyze existing DRFN technique and compare it with the proposed technique on the basis of performance metrics such as occurrence of displacements and displacement overheads. Experimental results show that the proposed failure detection and recovery technique outperform over the available technique. The presented scheme is implemented and analyzed in 2013 version of MATLAB simulation tool.


17. A. Baykaso, L. Özbakır and Pinar Tapkan, “Artificial Bee Colony Algorithm and Its Application to Generalized Assignment Problem”, Open Access Database


Index Terms

Computer Science Wireless

Keywords

Artificial Bee Colony (ABC) based Optimization, Failure handling, Mobile nodes, Wireless sensor networks (WSN).