Multihop Alternate Cluster Head Fault Tolerant Dynamic Clustering Protocol for Wireless Sensor Network

Abstract

This paper introduces MACH-FTDC (Multihop Alternate Cluster Head Fault Tolerant – Dynamic Clustering) protocol for wireless sensor network that provides fault tolerance as well as reduced data loss with mobility as compared to the existing FT-DSC protocol. It introduces mobility which is important to some of the real world applications. This protocol does tradeoff between sensor node energy and data availability. For most of the applications, data is of utmost importance and hence this protocol focuses more on data availability and reduces loss of data at the cost of energy. Wireless sensor network is prone to failure due many reasons such as hardware faults, damage to sensor nodes while its deployment, software faults, energy depletion etc. Due to this, wireless sensor network is required to be fault tolerant. MACH-FTDC has reduced data loss achieving more data availability and provides mobility to WSN which is necessary for some applications.


Index Terms

Computer Science Wireless

Keywords

Fault tolerance, Dynamic Clustering, FT-DSC, Mobility, MEFC.