Abstract

LEACH (Low-Energy Adaptive Clustering Hierarchy) is one of the most widely used protocol in WSN (Wireless Sensor Network). WSN have been used for different wide range of application from agriculture to military, it is a versatile network as wireless technology and devices are increasing. The challenge regarding WSN networks is the network lifetime as wireless devices suffers from lack of energy source. Therefore, the success of WSN exceedingly depends on network lifespan. In order to achieve longer lifespan of WSN researchers have developed different LEACH variations such as LEACHC (LEACH-Centralized), MOD-LEACH (Modified-LEACH). Still there are chances to enhance the LEACH protocol for longer lifespan. We have proposed a method by selecting cluster head based on both hibernate node and residual energy. This new method improves the performance 14% at best case and 8%-10% on average case than LEACH. Comparison among the different ‘'LEACH’' protocols like “LEACH-C” & “LEACH" with our modified “LEACH" protocol have shown with the help of simulation in MATLAB. Simulation result shows that the energy efficiency and node survivability are much higher than existing “LEACH-C” & “LEACH" protocols.