Abstract

Wireless sensor networks have a wide range of potential applications to industry, science, transport, civil industry, and security. Energy efficiency and improving the network lifetime are the fundamental challenges in wireless sensor networks. Use of multiple sinks can improve the data collection resulting in improved network lifetime with reduced delay and congestion. In this paper a data collection scheme using ant colony optimization is used to address this issue which increases the network throughput and conserves energy resulting in maximum network lifetime. A typical zone based partition is applied to implement the shortest path using ant colony optimization. The residual energy of each node is assigned and the shortest path is
selected using the ant colony optimization. This approach is validated through the simulations implemented in NS2.

References


Index Terms

Computer Science

Wireless

Keywords

Mobile Sink  Constrained Path  Residual Energy  Delay  Throughput.