

## **A novel energy-aware SDWSN controller placement scheme**

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This paper presents a novel algorithm for placing multiple controllers in a software defined wireless sensor network (SDWSN). The algorithm is designed to address scalability and energy efficiency issues in the network. We propose a hybrid algorithm that utilizes an automatic particle swarm algorithm and k-means algorithm with TEEN protocol to reduce the energy consumption of sensor nodes while minimizing the propagation latency between controllers and sensor nodes in the SDWSN environment. The proposed techniques are evaluated based on network latency and lifetime in a distributed network condition. The results obtained show the effectiveness of the approach in minimizing network delay and maximizing energy efficiency. However, the proposed scheme is open to significant improvement for real-work SDWSN network deployment.