Abstract

Multiprocessor real-time task assignment algorithm helps in the design and implementation of real time systems. Assigning real time task to heterogeneous multiprocessor system is challenging problem because the performance of each task varies from one processor to another. As the result of this determining solution for assigning task in heterogeneous processor leads to an NP hard problem. In this paper, Hybrid Ant Colony Optimization
Application of Meta Heuristic Algorithm for Real Time Task Assignment Problem on Heterogeneous Processor incorporates with Tabu search algorithm [HACO_TS] is proposed for real time task assignment in the heterogeneous system. The proposed Max-Min Ant System is included with a Tabu search algorithm to improve task assignment solution without exceeding the processors computing capacity and fulfilling the dead line constraints. From the experimental results, the proposed algorithm achieved better utilization compared to random assignment algorithm.

References

- Hong Jin, Hui Wang, Hongan Wang, Guozhong Dai, "An ACO-Based Approach for


Index Terms

Computer Science               Distributed Systems

Keywords

Multiprocessor       Heterogeneous       Np Hard       Haco_ts       Max-min Ant System       Tabu Search
Random Assignment