Abstract

With the advent of multi-core technology, scientific and high performance computing research is becoming increasingly dependent upon efficient parallel programming techniques. LINPACK is a mathematical software package which used for solving linear equations. The purpose of this paper is to compare the sequential and parallel implementations of LINPACK and analyze the results concurrently with energy consumption. A major emphasis is given here to find an efficient parallel programming method on multi-core processors for performance and power gains based on the obtained execution time. We discuss the techniques and algorithms involved in achieving high performance by reducing execution time through OpenMP parallelization on multi-core. The results of multi-core performance are found to be encouraging.

References


**Index Terms**

Computer Science Parallel Computing

**Keywords**