High Performance Computing
Homework 1

Understanding the Programming Platform

Report

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1 Environment

1.1 Hardware

1.1.1 CPU

Model Name: Intel(R) Core(TM)2 Quad CPU @ 2.93GHz
CPU MHz: 1600.000
Cores: 4
But actually, only one core is involved in this task. What is more, the '1600 MHz' means that at which the processor is running right now, and '2.93 GHz' is the maximum CPU Speed.

1.1.2 Memory

Total Memory: 4055940 KB

1.1.3 Cache

Cache Size: 4096 KB

1.2 Software

1.2.1 OS

Linux version 2.6.38-8-generic

1.2.2 Compiler

gcc version 4.5.2 (Ubuntu/Linaro 4.5.2-8ubuntu4)

1.2.3 Compiler Options

Please refer to makefile.

2 Performance

3 Further Discussion

References

[1] Intel. *Intel 64 and IA-32 Architectures Optimization Reference Manual*, November 2009. 2.1 Intel Core Microachitecture and Enhanced Intel Core Microachitecture, Intel Wide Dynamic Execution, Page 30.

[2] NOVATTE. How to calculate theoretical peak performance of a cpu-based hpc system. http://novatte.com/blog/2012/03/how-to-calculate-theoretical-peak-performance-of-a-cpu-based-hpc-system/.

Appendix

A Implement of Vector-Vector