



OMPL2001 Result

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SGI

SGI Altix 4700 Density System (1600MHz 18M L3, DC Itanium2 9040)

SPECompLpeak2001 = --

SPECompLbase2001 = 465289

SPEC license #HPG0014 Tested by: SGI Test site: SGI Test date: Nov-2006 Hardware Avail Jul-2006 Software Avail Aug-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_1	9200	279	527287		
313.swim_1	12500	462	433031		
315.mgrid_1	13500	381	566512		
317.applu_1	13500	563	383771		
321.equake_1	13000	775	268303		
325.apsi_1	10500	310	542482		
327.gafort_1	11000	568	310122		
329.fma3d_1	23500	1141	329626		
331.art_1	25000	289	1383852		

Hardware

CPU: Intel DC Itanium2 Processor 9040
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 64 cores, 32 chips, 2 cores/chip (Hyper-Threading Technology disabled)
 CPU(s) orderable: 2-1024
 Primary Cache: 16KBI + 16KBD (on chip) per core
 Secondary Cache: 1MBI + 256KBD (on chip) per core
 L3 Cache: 9.0MB (on chip) per core
 Other Cache: N/A
 Memory: 128 GB (8*1G PC3200 DIMMS per 4 core module)
 Disk Subsystem: 1 x 146 GB SCSI (Seagate Cheetah 15k rpm)
 Other Hardware: None

Software

OpenMP Threads: 64
 Parallel: OpenMP
 Operating System: SUSE Linux Enterprise Server 10 + SGI ProPack(TM) 5
 Compiler: Intel(R) Fortran Compiler for Linux 9.1 (Build 20060818)
 Intel(R) C++ Compiler for Linux 9.1 (Build 20060818)
 File System: xfs
 System State: Multi-user

Notes/Tuning Information

Baseline optimization flags:

C programs: -openmp -O3 -IPF_fp_relaxed -ipo -ansi_alias (ONESTEP)
 Fortran programs: -openmp -O3 -IPF_fp_relaxed -ipo (ONESTEP)
 OpenMP runtime library libguide.a statically linked

Extra Flags:

331.art_1: -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16

User environment:

OMP_NUM_THREADS 64
 limit stacksize 128000
 KMP_STACKSIZE 124M
 KMP_LIBRARY TURNAROUND
 OMP_DYNAMIC FALSE
 KMP_SCHEDULE static,balanced

For all benchmarks, threads were bound to cores using the following submit command:
 dplace -x2 -e -cNTM1,0 \$command,
 where NTM1 is the number of threads minus 1.

This binds threads in order of creation, beginning with the master thread on core NTM1, the first slave thread on core NTM1-1, and so on. The -x2 flag instructs dplace to skip placement of the lightweight OpenMP monitor thread, which is created prior to the slave threads.

For a description of SGI's compiler flags, portability flags, and system parameters used to generate this result, please refer to the



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Notes/Tuning Information (Continued)

SGI-20060801-Linux-Intel9.1-IPF.txt file in the flags directory.