OMPL2001 Result

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SGI

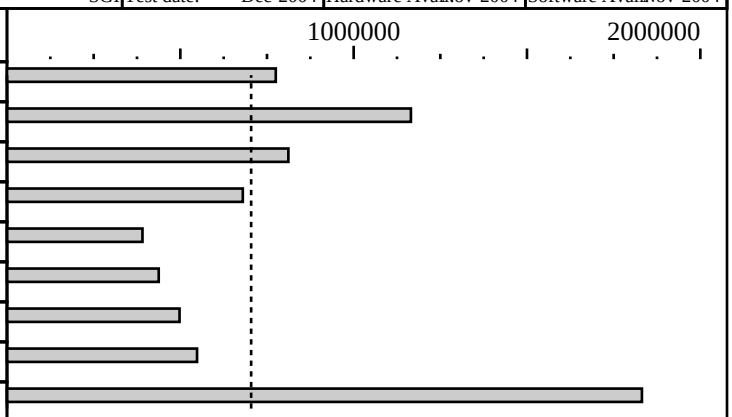
SGI Altix 3700 Bx2 (1500MHz 4M L3, Itanium 2)

SPECompLpeak2001 = --

SPECompLbase2001 = 704269

SPEC license #: HPG0014 | Tested by: SGI | Test site: SGI | Test date: Dec-2004 | Hardware Avail: Nov-2004 | Software Avail: Nov-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	190	775321		
313.swim_l	12500	172	1165135		
315.mgrid_l	13500	266	811664		
317.applu_l	13500	318	680189		
321.equake_l	13000	532	390768		
325.apsi_l	10500	384	437656		
327.gafort_l	11000	354	497690		
329.fma3d_l	23500	686	548232		
331.art_l	25000	218	1831514		



Hardware

CPU:	Intel Itanium 2
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	128 cores, 128 chips, 1 core/chip
CPU(s) orderable:	8-512
Primary Cache:	16KBI + 16KBD (on chip) per core
Secondary Cache:	256KB (on chip) per core
L3 Cache:	4.0MB (on chip) per core
Other Cache:	N/A
Memory:	128 GB (16*512MB PC2700 DIMMS per 8 core module)
Disk Subsystem:	1 x 73 GB SCSI (Seagate Cheetah 15k rpm)
Other Hardware:	None

Software

OpenMP Threads:	128
Parallel:	OpenMP
Operating System:	SGI ProPack(TM) 3 Service Pack 2
Compiler:	Intel(R) Fortran Compiler for Linux 8.1 (Build 20041021) Intel(R) C++ Compiler for Linux 8.1 (Build 20041021)
File System:	xfs
System State:	Multi-user

Notes/Tuning Information

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

Extra Flags:
  331.art_l: -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16

User environment:
  OMP_NUM_THREADS 128
  limit stacksize 256000
  KMP_STACKSIZE 124M
  KMP_LIBRARY TURNAROUND
  OMP_DYNAMIC FALSE
  KMP_SCHEDULE static,balanced

Required alternate sources:
Add critical region around update of linked list in parallel loop.
Approved src.alt available as ompl-purdue1-20040324.tar.gz
Used for 331.art_l, base.


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
```

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Notes/Tuning Information (Continued)

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
SGI-20050215-Linux-Intel8.1-IPF.txt file in the flags directory.