OMPL2001 Result

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SGI

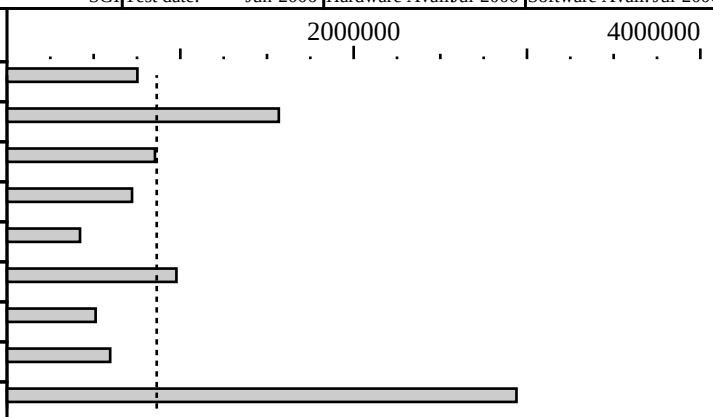
SGI Altix 4700 Bandwidth System (1600MHz 24M L3, DC Itanium2 9050)

SPECompLpeak2001 = --

SPECompLbase2001 = 863761

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	196	752311		
313.swim_l	12500	128	1568216		
315.mgrid_l	13500	253	853596		
317.applu_l	13500	299	721345		
321.equake_l	13000	494	421300		
325.apsi_l	10500	172	977450		
327.gafort_l	11000	344	511302		
329.fma3d_l	23500	632	595305		
331.art_l	25000	136	2939261		



Hardware

CPU:	Intel DC Itanium2 Processor 9050 (533 MHz FSB)
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	128 cores, 64 chips, 2 cores/chip (Hyper-Threading Technology disabled)
CPU(s) orderable:	2-1024 cores
Primary Cache:	16KBI + 16KBD (on chip) per core
Secondary Cache:	1MBI + 256KBD (on chip) per core
L3 Cache:	12.0MB (on chip) per core
Other Cache:	N/A
Memory:	512 GB (8*1G PC2-3200 DIMMS per 2 core module)
Disk Subsystem:	1 x 147 GB SCSI (Seagate Cheetah 10k rpm)
Other Hardware:	None

Software

OpenMP Threads:	128
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 10 + SGI ProPack(TM) 5
Compiler:	Intel(R) Fortran Compiler for Linux 9.0 (Build 20060223) Intel(R) C++ Compiler for Linux 9.0 (Build 20060223)
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_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 128000
  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.
```

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Notes/Tuning Information (Continued)

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. System was configured to 64 chips by disabling extra chips at PROM.

For a description of SGI's compiler flags, portability flags, and system parameters used to generate this result, please refer to the SGI-20060719-Linux-Intel9.0-IPF.txt file in the flags directory.