OMPL2001 Result

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SGI

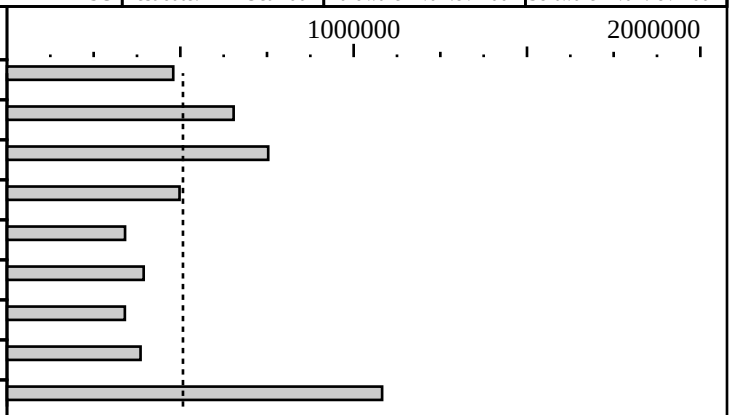
SGI Altix 3700 Bx2 (1600MHz 9M L3, Itanium 2)

SPECompLpeak2001 = --

SPECompLbase2001 = 507602

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	307	479551		
313.swim_l	12500	306	653758		
315.mgrid_l	13500	287	753517		
317.applu_l	13500	434	497703		
321.equake_l	13000	611	340543		
325.apsi_l	10500	426	394271		
327.gafort_l	11000	518	339965		
329.fma3d_l	23500	976	385248		
331.art_l	25000	370	1082070		



Hardware

CPU:	Intel Itanium 2
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	64 cores, 64 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:	9.0MB (on chip) per core
Other Cache:	N/A
Memory:	256 GB (32*1024MB PC2700 DIMMS per 8 core module)
Disk Subsystem:	16x73GB FC Seagate Cheetah 15K rpm (striped)
Other Hardware:	None

Software

OpenMP Threads:	64
Parallel:	OpenMP
Operating System:	SGI ProPack(TM) 3 Service Pack 1
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 64
  limit stacksize 256000
  KMP_STACKSIZE 124M
  KMP_LIBRARY TURNAROUND
  OMP_DYNAMIC FALSE
  KMP_SCHEDULE static,balanced

Peak optimization flags
311.wupwise_l: basepeak=true
313.swim_l: basepeak=true
315.mgrid_l: basepeak=true
317.applu_l: basepeak=true
321.equake_l: basepeak=true
325.apsi_l: basepeak=true
327.gafort_l: basepeak=true
329.fma3d_l: basepeak=true
331.art_l: basepeak=true
```

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Notes/Tuning Information (Continued)

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 and peak.

For all benchmarks threads were bound to cores using the following submit command:
dplace -x2 -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
SGI-20041118-Linux-Intel8.1-IPF.txt file in the flags directory.