



OMPL2001 Result

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SGI

SGI Altix 3700 Bx2 (1600MHz 6M L3, Itanium 2)

SPECompLpeak2001 = --

SPECompLbase2001 = 750847

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_1	9200	181	814456		
313.swim_1	12500	170	1176560		
315.mgrid_1	13500	276	783604		
317.applu_1	13500	315	684654		
321.equake_1	13000	501	414957		
325.apsi_1	10500	285	589177		
327.gafort_1	11000	338	521378		
329.fma3d_1	23500	630	597161		
331.art_1	25000	206	1938287		

Hardware		Software	
CPU:	Intel Itanium 2	OpenMP Threads:	128
CPU MHz:	1600	Parallel:	OpenMP
FPU:	Integrated	Operating System:	SGI ProPack(TM) 3 Service Pack 1
CPU(s) enabled:	128 cores, 128 chips, 1 core/chip	Compiler:	Intel(R) Fortran Compiler for Linux 8.1 (Build 20041021) Intel(R) C++ Compiler for Linux 8.1 (Build 20041021)
CPU(s) orderable:	8-512	File System:	xfst
Primary Cache:	16KBI + 16KBD (on chip) per core	System State:	Multi-user
Secondary Cache:	256KB (on chip) per core		
L3 Cache:	6.0MB (on chip) per core		
Other Cache:	N/A		
Memory:	256 GB (32*512MB PC2700 DIMMS per 8 core module)		
Disk Subsystem:	1x73 GB SCSI (Seagate Cheetah 10k rpm)		
Other Hardware:	None		

Notes/Tuning Information

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_1: -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

Peak optimization flags

311.wupwise_1: basepeak=true
 313.swim_1: basepeak=true
 315.mgrid_1: basepeak=true
 317.applu_1: basepeak=true
 321.equake_1: basepeak=true
 325.apsi_1: basepeak=true
 327.gafort_1: basepeak=true
 329.fma3d_1: basepeak=true
 331.art_1: 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_1, 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.