



OMPL2001 Result

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SGI

SGI Altix UV 1000 (Intel Xeon X7542, 2.66GHz)

SPECompLpeak2001 = 1663244

SPECompLbase2001 = 1373777

SPEC license #HPG0014 Tested by: SGI Test site: SGI Test date: Aug-2010 Hardware Availun-2010 Software AvailNov-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	47.6	3090602	47.6	3090602
313.swim_l	12500	58.7	3407019	58.7	3407019
315.mgrid_l	13500	264	817431	169	1274485
317.applu_l	13500	202	1071232	198	1089674
321.quake_l	13000	358	580927	317	656130
325.apsi_l	10500	164	1023527	119	1411011
327.gafort_l	11000	322	545860	242	728449
329.fma3d_l	23500	303	1239388	204	1842913
331.art_l	25000	85.1	4698778	74.6	5359593

Hardware	Software
CPU: Intel(R) Xeon(R) Processor X7542 CPU MHz: 2667 FPU: Integrated CPU(s) enabled: 384 cores, 64 chips, 6 cores/chip CPU(s) orderable: 2-256 chips Primary Cache: 32 KB I + 32 KB D on chip per core Secondary Cache: 256 KB I+D on chip per core L3 Cache: 18 MB I+D on chip Other Cache: N/A Memory: 2048 GB (512 x 4 GB Quad-rank DDR3-1066 CL7 DIMMs) Disk Subsystem: 36 TB RAID 5 80 x 450 GB FC (Seagate Cheetah 15K.6) Other Hardware:	OpenMP Threads: 384 Parallel: OpenMP Operating System: SUSE Linux Enterprise Server 11 SP1, Kernel 2.6.32.12-0.7.1.1381.1.PTF-default Compiler: Intel(r) C++ Compiler XE, version 12.0 Beta, Build 20100706 Intel(r) Visual Fortran Compiler XE, version 12.0 Beta, Build 20100706 File System: xfs System State: Multi-user, run level 3

Notes/Tuning Information

BIOS settings notes:

Intel Turbo Boost Technology (Turbo) : Enabled (Max 2.80GHz)

Extra Flags:

331.art_l: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

General Notes and Enviroment variables

```

export KMP_LIBRARY=turnaround
export KMP_STACKSIZE=31M
export KMP_BLOCKTIME=infinite
export OMP_DYNAMIC=FALSE
ONESTEP=yes
ulimit -s unlimited

```

For compiler/openmp flags description please refer:

SGI-20100816-Linux-Intel11.1-intel64.html

Base optimization flags and environment variables:

Large:

```

OPTIMIZE = -O3 -xSSE4.2 -ipol -openmp -mcmmodel=medium -shared-intel
COPTIMIZE = -ansi-alias

```



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Notes/Tuning Information (Continued)

```
export KMP_AFFINITY=scatter,1
```

Peak optimization flags and environment variables:

Large:

```
OPTIMIZE = -O3 -xSSE4.2 -ipol -openmp -rcd
export KMP_AFFINITY=scatter,1
```

Peak per-benchmark optimization flags and environment variables:

```
311.wupwise_1
basepeak = yes
```

```
313.swim_m
basepeak = yes
```

```
315.mgrid_1
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp -rcd
export OMP_NUM_THREADS=264
```

```
317.aplu_1
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp -rcd -mcmmodel=medium -shared-intel
export OMP_NUM_THREADS=360
```

```
321.quake_1
export OMP_NUM_THREADS=240
```

```
325.apsi_1
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp
export KMP_AFFINITY=scatter,0
export OMP_NUM_THREADS=240
```

```
327.gafort_1
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp -rcd -mcmmodel=medium -shared-intel
export KMP_AFFINITY=scatter,0
export OMP_NUM_THREADS=288
```

```
329.fma3d_1
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
export KMP_AFFINITY=scatter,0
```

```
331.art_1
COPTIMIZE=-ansi-alias
export OMP_NUM_THREADS=192
```