OMPL2001 Result

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SGI

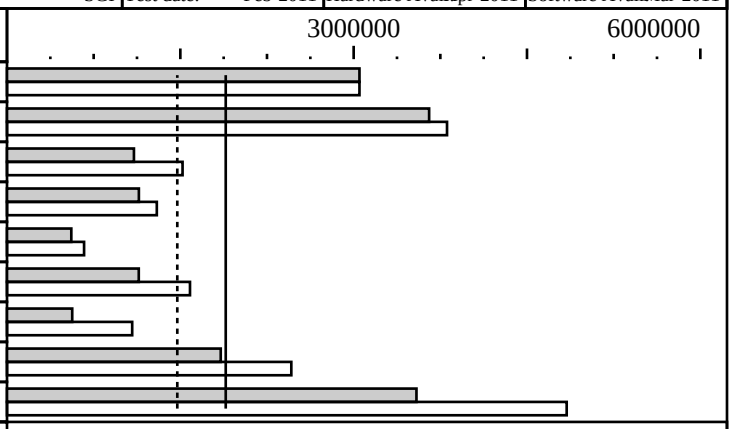
SGI Altix UV1000 (Intel Xeon E7-8837, 2.66GHz)

SPECompLpeak2001 = 1892885

SPECompLbase2001 = 1473725

SPEC license #HPG0014	Tested by: SGI	Test site: SGI	Test date: Feb-2011	Hardware Avail: Apr-2011	Software Avail: Mar-2011

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	48.3	3050172	48.3	3050172
313.swim_l	12500	54.7	3653006	52.5	3807916
315.mgrid_l	13500	197	1098489	142	1519252
317.applu_l	13500	189	1141226	167	1296433
321.equake_l	13000	374	556498	312	667023
325.apsi_l	10500	147	1140329	106	1583599
327.gafort_l	11000	312	564406	162	1083371
329.fma3d_l	23500	203	1849670	153	2460425
331.art_l	25000	113	3543447	82.6	4843431



Hardware

CPU:	Intel(R) Xeon(R) Processor E7-8837
CPU MHz:	2660
FPU:	Integrated
CPU(s) enabled:	512 cores, 64 chips, 8 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:	24 MB I+D on chip
Other Cache:	N/A
Memory:	2 TB (512 x 4 GB 4Rx8 PC3-8500R-7, ECC)
Disk Subsystem:	1 x 146 GB SAS (Seagate Savvio 15K.2)
Other Hardware:	Routered quad-plane fat tree topology

Software

OpenMP Threads:	512
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 SP1, Kernel 2.6.32.12-0.7.1-uv
Compiler:	Intel(R) C++ Composer XE 2011 for Linux, version 12.0.1.107, Build 20101116 Intel(R) Fortran Composer XE 2011 for Linux, version 12.0.1.107, Build 20101116
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)

================================================================================
OS notes:
  Kernel is generally available as 2.6.32.29-0.3.1.2687.3.PTF-default

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

================================================================================
General Notes and Environment 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-Linux-Intel12.0-intel64.html

Base optimization flags and environment variables:
================================================================================
```

Notes/Tuning Information (Continued)

```
Large:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp -mcmodel=medium -shared-intel
  COPTIMIZE  = -ansi-alias
  export KMP_AFFINITY=scatter,1

Peak optimization flags and environment variables:
================================================================================
Large:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp -rcd
  export KMP_AFFINITY=scatter,1

Peak per-benchmark optimization flags and environment variables:
================================================================================
311.wupwise_l
  basepeak=yes

================================================================================
313.swim_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -mcmodel=medium -shared-intel
  COPTIMIZE=-ansi-alias
  export OMP_NUM_THREADS=256
  export KMP_AFFINITY=scatter,0

================================================================================
315.mgrid_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd
  export OMP_NUM_THREADS=256

================================================================================
317.applu_l
 OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd -mcmodel=medium -shared-intel
 export OMP_NUM_THREADS=416

================================================================================
321.equake_l
  export OMP_NUM_THREADS=256

================================================================================
325.apsi_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
  export KMP_AFFINITY=scatter,0
  export OMP_NUM_THREADS=256

================================================================================
327.gafort_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd -mcmodel=medium -shared-intel
  export KMP_AFFINITY=scatter,0
  export OMP_NUM_THREADS=448

================================================================================
329.fma3d_l
  export  KMP_AFFINITY=scatter,0

================================================================================
331.art_l
```

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Notes/Tuning Information (Continued)

```
COPTIMIZE=-ansi-alias
export OMP_NUM_THREADS=256
```