OMPL2001 Result

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SGI

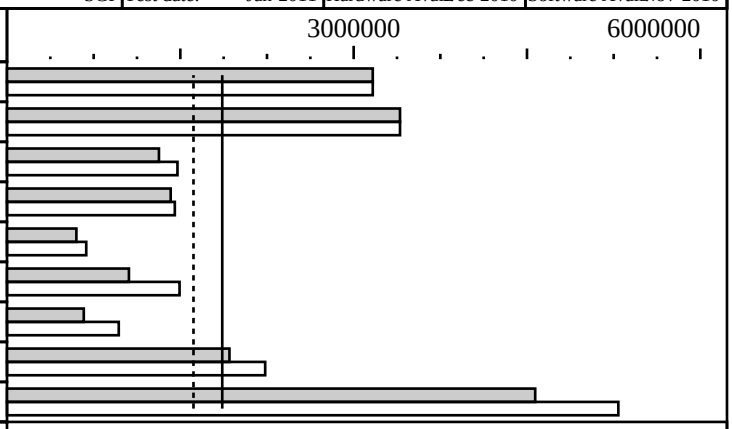
SGI UV1000 (Intel Xeon X7542, 2.66GHz)

SPECompLpeak2001 = 1862732

SPECompLbase2001 = 1613862

SPEC license #HPG0014 | Tested by: SGI | Test site: SGI | Test date: Jan-2011 | Hardware Avail: Dec-2010 | Software Avail: Nov-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	46.5	3165207	46.5	3165207
313.swim_l	12500	58.8	3401079	58.8	3401079
315.mgrid_l	13500	164	1314895	146	1475285
317.applu_l	13500	152	1416538	149	1452279
321.equake_l	13000	346	600364	303	685741
325.apsi_l	10500	159	1055172	113	1493230
327.gafort_l	11000	265	664463	182	967185
329.fma3d_l	23500	195	1925073	168	2234218
331.art_l	25000	87.5	4570907	75.6	5290376



Hardware

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:	60 x 1 TB SATA (HITACHI 7.2K)
Other Hardware:	Routered quad-plane fat tree topology

Software

OpenMP Threads:	384
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 SP1, Kernel 2.6.32.24-0.2.1.2230.2.PTF-default
Compiler:	Intel(R) C++ Intel (R) 64 Compiler XE, version 12.0.1.107, Build 20101116 Intel(R) Fortran Intel (R) 64 Compiler XE, 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)

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

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Notes/Tuning Information (Continued)

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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
  basepeak = yes

================================================================================
315.mgrid_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd
  export OMP_NUM_THREADS=264

================================================================================
317.applu_l
 OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd -mcmodel=medium -shared-intel
  export OMP_NUM_THREADS=360

================================================================================
321.equake_l
  export OMP_NUM_THREADS=240

================================================================================
325.apsi_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
  export KMP_AFFINITY=scatter,0
  export OMP_NUM_THREADS=240

================================================================================
327.gafort_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd -mcmodel=medium -shared-intel
  export KMP_AFFINITY=scatter,0
  export OMP_NUM_THREADS=288

================================================================================
329.fma3d_l
  FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
  export KMP_AFFINITY=scatter,0

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