OMPL2001 Result

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SGI

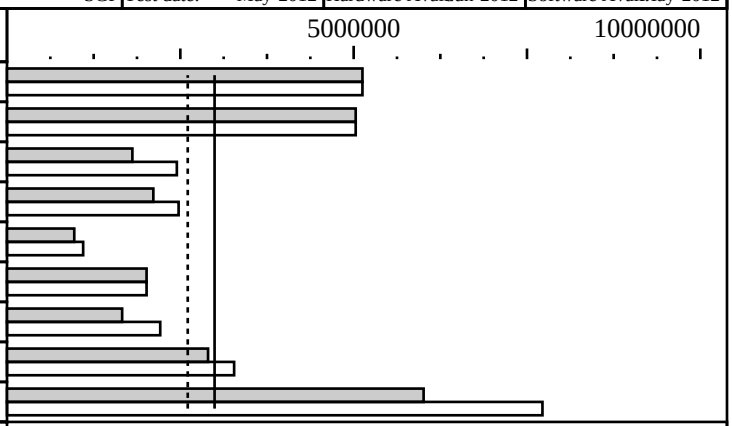
SGI UV 2000 (Intel Xeon E5-4650 2.7GHz)

SPECompLpeak2001 = 2993987

SPECompLbase2001 = 2606987

SPEC license #HPG0014 | Tested by: SGI | Test site: SGI | Test date: May-2012 | Hardware Avail: Jun-2012 | Software Avail: May-2012

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	28.7	5126706	28.7	5126706
313.swim_l	12500	39.8	5029309	39.8	5029309
315.mgrid_l	13500	119	1808386	88.2	2449672
317.applu_l	13500	102	2110676	87.3	2475120
321.equake_l	13000	214	970091	189	1098520
325.apsi_l	10500	83.5	2013165	83.5	2013165
327.gafort_l	11000	106	1660884	79.6	2210044
329.fma3d_l	23500	130	2899788	115	3275880
331.art_l	25000	66.6	6008866	51.8	7722921



Hardware

CPU:	Intel(R) Xeon(R) Processor E5-4650
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	512 cores, 64 chips, 8 cores/chip
CPU(s) orderable:	4-256 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:	20 MB I+D on chip per chip
Other Cache:	N/A
Memory:	2 TB (256 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 300 GB SAS-2 (Seagate Savvio 15K.3)
Other Hardware:	Routered topology

Software

OpenMP Threads:	512
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 SP2, Kernel 3.0.13-0.27.1-uv #1 SMP
Compiler:	Intel(R) C++ Composer XE 2011, version 12.1.3.293, Build 20120212 Intel(R) Fortran Composer XE 2011, version 12.1.3.293, Build 20120212 GNU C Compiler 4.3.4
File System:	xfs
System State:	Multi-user, run level 3

Notes/Tuning Information

```
================================================================================
BIOS settings notes:
  Intel Turbo Boost Technology (Turbo)  : Disabled
  Hyper-Threading Technology            : Enabled (not used)

================================================================================
OS notes:
  Kernel is generally available as 3.0.26-0.7.6.4317.0.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
  export KMP_AFFINITY=scatter,1
  export OMP_NUM_THREADS=512

For compiler/openmp flags description please refer:
SGI-Linux-Intel12.1-intel64.html
```

Notes/Tuning Information (Continued)

```
Base optimization flags and environment variables:
================================================================================
Large:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp -mcmodel=medium -shared-intel
  COPTIMIZE  = -ansi-alias

Peak per-benchmark optimization flags and environment variables:
================================================================================
311.wupwise_l
  basepeak=1

================================================================================
313.swim_m
  basepeak=1

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

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

================================================================================
321.equake_l
  OPTIMIZE=-O3 -xAVX -ipo1 -openmp  -mcmodel=medium -shared-intel
  export OMP_NUM_THREADS=256

================================================================================
325.apsi_l
  basepeak=1

================================================================================
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
  OPTIMIZE=-O3 -xAVX -ipo1 -openmp -rcd
  export  KMP_AFFINITY=scatter,0

================================================================================
331.art_l
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp -rcd
  export OMP_NUM_THREADS=256
```