OMPL2001 Result

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SGI

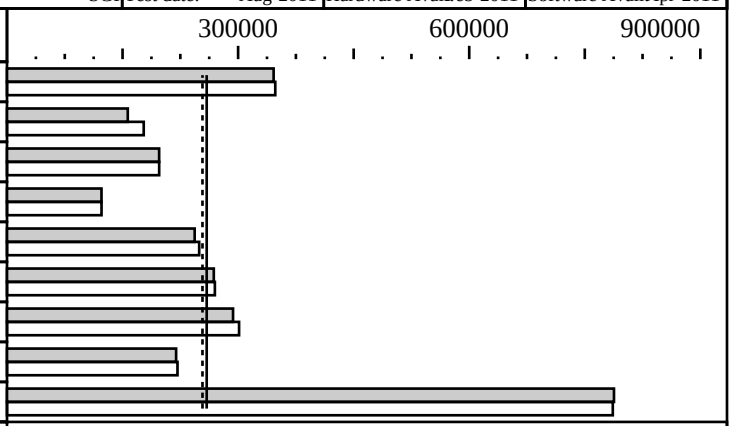
SGI Rackable C2005-TY3 (Intel Xeon X5687, 3.60GHz)

SPECompLpeak2001 = 259229

SPECompLbase2001 = 253751

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	425	346100	423	348236
313.swim_l	12500	1276	156764	1127	177478
315.mgrid_l	13500	1094	197487	1094	197524
317.applu_l	13500	1761	122661	1760	122703
321.equake_l	13000	854	243600	834	249468
325.apsi_l	10500	626	268444	623	269827
327.gafort_l	11000	600	293415	584	301248
329.fma3d_l	23500	1713	219527	1699	221311
331.art_l	25000	508	787909	509	786363



Hardware

CPU:	Intel(R) Xeon(R) Processor X5687
CPU MHz:	3600
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1-2 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:	12 MB I+D on chip
Other Cache:	N/A
Memory:	48 GB (6 x 8 GB, 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	5.8 TB RAID 5 20 x 146 GB FC (Seagate Cheetah 15K.4) 40 x 73 GB FC (Seagate Cheetah 15K.4)
Other Hardware:	None

Software

OpenMP Threads:	16
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.36-0.5-default
Compiler:	Intel C/C++ Compiler 11.1.059 for Linux Intel Fortran Compiler 11.1.059 for Linux Other: Intel Math Kernel Library 10.2.6
File System:	NFSv3 IPoIB
System State:	Multi-user, run level 3

Notes/Tuning Information

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================================================================================
BIOS settings notes:
  Intel Hyper-Threading Technology (SMT): Enabled
  Intel Turbo Boost Technology (Turbo)  : Enabled (Max 3.86GHz)

================================================================================
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:
================================================================================
```

Notes/Tuning Information (Continued)

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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
  export KMP_AFFINITY=compact,1

Peak per-benchmark optimization flags and environment variables:
================================================================================
311.wupwise_l
  export KMP_AFFINITY=scatter,1

================================================================================
313.swim_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores always -align -rcd -mcmodel=medium -shared-intel
  export OMP_NUM_THREADS=8

================================================================================
315.mgrid_l
  export KMP_AFFINITY=scatter,1

================================================================================
317.applu_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -rcd -mcmodel=medium -shared-intel
  export KMP_AFFINITY=scatter,1

================================================================================
321.equake_l
  export OMP_NUM_THREADS=8

================================================================================
325.appsi_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp

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

================================================================================
329.fma3d_l
  FOPTIMIZE=-no-prec-sqrt -fp-model fast=2

================================================================================
331.art_l
  COPTIMIZE=-ansi-alias

================================================================================
Additional notes for disk subsystem:
  The disk subsystem is mounted through NFS over IPoIB via 4x DDR
  InfiniBand network. The local disk on the system is only for the OS.
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Notes/Tuning Information (Continued)