OMPL2001 Result

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SGI

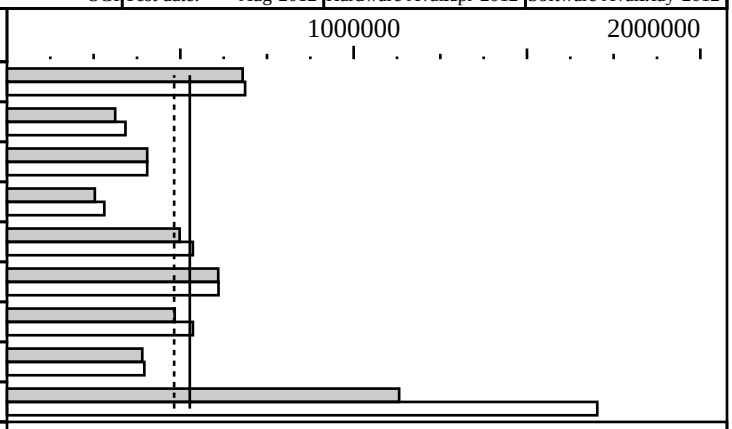
SGI Rackable C2112-4RP4 (Intel Xeon E5-2670, 2.6GHz)

SPECompLpeak2001 = 527338

SPECompLbase2001 = 482184

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	217	679845	214	686830
313.swim_l	12500	641	312129	585	341797
315.mgrid_l	13500	534	404450	534	404447
317.applu_l	13500	853	253363	770	280699
321.equake_l	13000	418	497992	388	536080
325.apsi_l	10500	276	609311	275	610197
327.gafort_l	11000	364	483798	328	536290
329.fma3d_l	23500	964	390211	949	396136
331.art_l	25000	354	1131188	235	1702682



Hardware

CPU:	Intel(R) E5-2670
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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:	20 MB I+D on chip
Other Cache:	N/A
Memory:	128 GB (12 x 8 GB, 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	10 TB RAID 6 10 x 1 TB SAS (Seagate Constellation ES, 7200RPM)
Other Hardware:	None

Software

OpenMP Threads:	32
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 SP2, Kernel 3.0.26-0.7-default #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
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 (default is Enabled)
        Intel Turbo Boost Technology (Turbo)  : Enabled (Max 3.3GHz)
    Extra Flags:
        331.art_l: -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16

General Notes and Environment variables
export KMP_LIBRARY=turnaround
export KMP_STACKSIZE=31M
export KMP_BLOCKTIME=infinite
export OMP_DYNAMIC=FALSE
ulimit -s unlimited
ONESTEP=yes

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

Base optimization flags and environment variables:
================================================================================
Large:
  OPTIMIZE  = -O2 -xAVX -ipo -openmp -mcmodel=medium -shared-intel
  COPTIMIZE  = -ansi-alias
  export KMP_AFFINITY=compact,0

Peak optimization flags and environment variables:
```

Notes/Tuning Information (Continued)

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==============================================================================
Large:
  OPTIMIZE  = -O3 -xAVX -ipo -openmp
  export KMP_AFFINITY=compact,0

Peak per-benchmark optimization flags and environment variables:
==============================================================================
311.wupwise_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp

==============================================================================
313.swim_l
  OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -opt-streaming-stores always -align -mcmodel=medium -shared-intel
  export OMP_NUM_THREADS=16
  export KMP_AFFINITY=compact,1

==============================================================================
315.mgrid_l
  OPTIMIZE=-O3 -xAVX -ipo -openmp -fno-alias

==============================================================================
317.applu_l
  OPTIMIZE=-O3 -xAVX -ipo -openmp -mcmodel=medium -shared-intel
  export KMP_AFFINITY=scatter,0

==============================================================================
321.equake_l
  export OMP_NUM_THREADS=16
  export KMP_AFFINITY=compact,1

==============================================================================
325.appsi_l
  OPTIMIZE=-O2 -xAVX -ipo -openmp

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

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

==============================================================================
331.art_l
  OPTIMIZE=-O2 -xSSE4.2 -ipo -openmp
  COPTIMIZE=-ansi-alias

==============================================================================
Additional notes for disk subsystem:
  The disk subsystem is mounted through NFS over IPoIB via 4x QDR
  InfiniBand network. The local disk on the system is only for the OS.

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Additional notes for OS:
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Notes/Tuning Information (Continued)

Transparent Huge Page support is enabled on the system.