OMPM2001 Result

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SGI

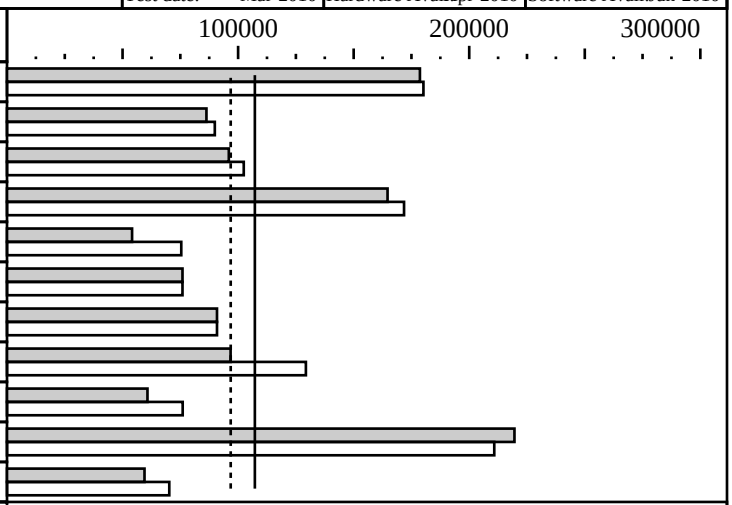
SGI Altix UV 10 (Intel Xeon X7560, 2.26 GHz)

SPECompMpeak2001 = 107248

SPECompMbase2001 = 96797

SPEC license #HPG0014 | Tested by: SGI | Test site: -- | Test date: Mar-2010 | Hardware Avail:Apr-2010 | Software Avail:Jun-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	33.6	178667	33.3	180188
312.swim_m	6000	69.5	86298	66.7	89917
314.mgrid_m	7300	76.1	95978	71.3	102442
316.applu_m	4000	24.3	164661	23.3	171797
318.galgel_m	5100	94.2	54119	67.6	75404
320.equake_m	2600	34.2	75934	34.2	75932
324.apsi_m	3400	37.4	90863	37.4	90865
326.gafort_m	8700	89.9	96746	67.3	129327
328.fma3d_m	4600	75.7	60780	60.5	76017
330.art_m	6400	29.1	219575	30.4	210835
332.ammp_m	7000	118	59498	99.7	70216



Hardware

CPU:	Intel(R) Xeon(R) Processor X7560
CPU MHz:	2260
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	1-4
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 per chip
Other Cache:	N/A
Memory:	128 GB (64x2GB dual-rank DDR3-1066 CL7 RDIMMs)
Disk Subsystem:	1 x 150 GB SATA (Western Digital VelociRaptor 10k rpm)
Other Hardware:	

Software

OpenMP Threads:	64
Parallel:	OpenMP
Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP1 Beta, kernel 2.6.32.7-0.2-default
Compiler:	Intel C/C++ Compiler 11.1.059 for Linux Intel FORTRAN Compiler 11.1.059 for Linux GNU C Compiler 4.3.2 Other: Intel Math Kernel Library 10.2.4
File System:	Linux ext3
System State:	Multi-user, run level 3

Notes/Tuning Information

```
================================================================================
BIOS settings notes:
  Intel Hyper-Threading Technology (SMT): Enabled
  Intel Turbo Boost Technology (Turbo)  : Enabled  (Max 2.66 GHz)
  Patrol Scrub:   Disabled
  CKE Low Policy: Disabled

================================================================================
Extra Flags:
  318.galgel_m: -FI -132
  330.art_m: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8 -D_OPENMP
  all: -gcc-name=/usr/bin/gcc

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

Notes/Tuning Information (Continued)

```
Intel-ic11.1-intel64-linux-flags-file-Feb-25-2010.html

Base optimization flags and environment variables:
================================================================================
Medium:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp
  COPTIMIZE  = -ansi-alias
  export OMP_NUM_THREADS=32
  export KMP_AFFINITY=compact,1

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

Peak per-benchmark optimization flags and environment variables:
================================================================================
310.wupwise_m
  export OMP_NUM_THREADS=32

================================================================================
312.swim_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores always -align -rcd
  srcalt = ompl.32
  export OMP_NUM_THREADS=32

================================================================================
314.mgrid_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -fno-alias -rcd
  export OMP_NUM_THREADS=32

================================================================================
316.applu_m
  export KMP_AFFINITY=scatter,1

================================================================================
318.galgel_m
  export OMP_NUM_THREADS=16
  export KMP_AFFINITY=granularity=fine,scatter,0
  RM_SOURCES=lapak.f90
  EXTRA_LIBS=-lmkl_intel_lp64 -lmkl_intel_thread -lmkl_core

================================================================================
320.equake_m
  export OMP_NUM_THREADS=32

================================================================================
324.appsi_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
  export OMP_NUM_THREADS=32

================================================================================
326.gafort_m
  srcalt = ompl.32
```

Notes/Tuning Information (Continued)

```
  export KMP_AFFINITY=scatter,0

==============================================================================
328.fma3d_m
  FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
  srcalt = ompl.32

==============================================================================
330.art_m
  COPTIMIZE=-ansi-alias

==============================================================================
332.ammp_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
```