



OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

SGI

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

SPECompMpeak2001 = 50470

SPECompMbase2001 = 47161

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	79.1	75877	74.7	80347
312.swim_m	6000	160	37472	142	42162
314.mgrid_m	7300	204	35766	170	42818
316.applu_m	4000	122	32653	122	32653
318.galgel_m	5100	116	44022	97.6	52232
320.quake_m	2600	53.3	48814	48.4	53681
324.apsi_m	3400	78.0	43572	78.0	43572
326.gafort_m	8700	152	57266	147	59135
328.fma3d_m	4600	135	34003	124	37014
330.art_m	6400	50.1	127844	49.7	128861
332.ammp_m	7000	211	33163	211	33163

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
 Intel(R) C++ Composer XE 2011 for Linux, version 12.0.5.220 Build 20110719
 Intel(R) Fortran Composer XE 2011 for Linux, version 12.0.5.220 Build 20110719
 Other: Intel Math Kernel Library 10.2.6
 File System: NFSv3 IPoIB
 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 3.86GHz)

Extra Flags:

318.galgel_m: -FI -132
 330.art_m: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

General Notes and Environment variables

CC = /sw/sdev/intel/Compiler/11.1/059/bin/intel64/icc
 FC = /sw/sdev/intel/Compiler/11.1/059/bin/intel64/ifort
 export LD_LIBRARY_PATH=/sw/sdev/intel/Compiler/11.1/059/lib/intel64
 export KMP_LIBRARY=turnaround
 export KMP_STACKSIZE=31M
 export KMP_BLOCKTIME=infinite
 export OMP_DYNAMIC=FALSE
 ONESTEP=yes
 ulimit -s unlimited



OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

SGI

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

SPECompMpeak2001 = 50470

SPECompMbase2001 = 47161

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

Notes/Tuning Information (Continued)

=====
For compiler/openmp flags description please refer:
SGI-20100816-Linux-Intel11.1-intel64.html
SGI-Linux-Intel12.0-intel64.html

Base optimization flags and environment variables:

=====
Medium:
OPTIMIZE = -O3 -xSSE4.2 -ipol -openmp
COPTIMIZE--ansi-alias
export KMP_AFFINITY=scatter,1

Peak optimization flags and environment variables:

=====
Medium:
OPTIMIZE = -O3 -xSSE4.2 -ipol -openmp -rcd
export KMP_AFFINITY=compact,1

Peak per-benchmark optimization flags and environment variables:

=====
310.wupwise_m
export KMP_AFFINITY=scatter,1
CC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/icc
FC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/fort
export LD_LIBRARY_PATH=/sw/sdev/intel/composerxe-2011.5.220/lib/intel64

=====
312.swim_m
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp -opt-streaming-stores always -align -rcd
srcalt = omp1.32
export OMP_NUM_THREADS=8

=====
314.mgrid_m
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp -fno-alias -rcd
export OMP_NUM_THREADS=8
CC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/icc
FC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/fort
export LD_LIBRARY_PATH=/sw/sdev/intel/composerxe-2011.5.220/lib/intel64

=====
316.applu_m
basepeak=1

=====
318.galgel_m
export OMP_NUM_THREADS=4
RM_SOURCES=lapak.f90
EXTRA_LIBS=-lmkl_intel_lp64 -lmkl_intel_thread -lmkl_core
export KMP_AFFINITY=scatter,0
export LD_LIBRARY_PATH=/sw/sdev/intel/Compiler/11.1/059/mkl/lib/em64t:/sw/sdev/intel/Compiler/11.1/059/lib/intel64

=====
320.quake_m



OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

SGI

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

SPECompMpeak2001 = 50470

SPECompMbase2001 = 47161

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

Notes/Tuning Information (Continued)

```
export OMP_NUM_THREADS=8
```

```
=====
324.appsi_m
    basepeak=1
```

```
=====
326.gafort_m
    srcalt = ompl.32
    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
    CC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/icc
    FC=/sw/sdev/intel/composerxe-2011.5.220/composerxe-2011.5.220/bin/intel64/fort
    export LD_LIBRARY_PATH=/sw/sdev/intel/composerxe-2011.5.220/lib/intel64
```

```
=====
332.ammp_m
    OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -mcmmodel=medium -shared-intel
    COPTIMIZE=-ansi-alias
    export KMP_AFFINITY=scatter,1
```

```
=====
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.
```