



OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX (AMD Opteron 6282 SE, 2.6GHz)

SPECompMpeak2001 = 71916

SPECompMbase2001 = 68417

SPEC license #HPG0014 Tested by: SGI Test site: SGI Test date: Jan-2012 Hardware Avail Nov-2011 Software Avail Dec-2011

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	54.0	111167	52.4	114550	
312.swim_m	6000	107	56048	97.9	61317	
314.mgrid_m	7300	110	66478	110	66478	
316.applu_m	4000	36.1	110703	35.1	114055	
318.galgel_m	5100	131	39031	113	45099	
320.quake_m	2600	44.5	58408	35.0	74217	
324.apsi_m	3400	46.8	72706	46.8	72706	
326.gafort_m	8700	154	56568	152	57420	
328.fma3d_m	4600	100	45821	100	45821	
330.art_m	6400	34.0	188376	34.0	188376	
332.ammp_m	7000	169	41427	169	41427	

Hardware

CPU: AMD Opteron(tm) Processor 6282 SE
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip
 CPU(s) orderable: 1-2 chips
 Primary Cache: 512 KB I on chip per chip, 64 KB I shared / 2 cores; 16 KB D on chip per core
 Secondary Cache: 16 MB I+D on chip per chip, 2 MB I+D on chip per core
 L3 Cache: 16 MB I+D on chip per chip, 8 MB shared / 8 cores
 Other Cache: None
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 16 TB RAID 5
 32 x 500 GB SATA (Seagate Barracuda 7.2K)
 Other Hardware: None

Software

OpenMP Threads: 32
 Parallel: OpenMP
 Operating System: SUSE Linux Enterprise Server 11 SP1 (x86_64)
 Kernel 2.6.32.46-0.3-default #1 SMP
 Compiler: Open64 4.5.1
 File System: NFSv3 IPoIB
 System State: Run Level 3 (Multi-User)

Notes/Tuning Information

AMD Turbo CORE technology up to 3.30 GHz

Base and Peak User Environment (bash):

```
export OMP_NUM_THREADS=32
export OMP_DYNAMIC=FALSE
export O64_OMP_SPIN_COUNT=100000000
export O64_OMP_SPIN_USER_LOCK=TRUE
export OMP_SLAVE_STACK=22M
export O64_OMP_SET_AFFINITY=TRUE
export O64_OMP_AFFINITY_MAP=0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31
ulimit -s unlimited
```

For Compiler/OpenMP flags description please refer:

SGI-x86-open64-424-flags.html

Base tuning:

```
C : opencc -mp -march=bdver1 -Ofast -mcmmodel=medium
Fortran : openf90 -mp -march=bdver1 -Ofast -OPT:early_mp=on -mcmmodel=medium
ONESTEP=yes
```

Extra art Base Flags

330.art_m : -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org



OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

SGI

SGI Altix ICE 8400EX (AMD Opteron 6282 SE, 2.6GHz)

SPECompMpeak2001 = 71916

SPECompMbase2001 = 68417

SPEC license #HPG0014 Tested by: SGI Test site: SGI Test date: Jan-2012 Hardware Avail Nov-2011 Software Avail Dec-2011

Notes/Tuning Information (Continued)

Portability flags:

318.galgel_m : -fixedform -col80

Peak tuning:

ONESTEP=yes for all benchmarks.

```

310.wupwise_m : FOPTIMIZE = -mp -Ofast -msse3 -OPT:early_mp=on -LNO:prefetch Ahead=5:prefetch=3 -march=bdver1
                -mcmodel=medium -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
                -IPA:linear=on:plimit=50000:callee_limit=5000 -INLINE:aggressive=on -CG:load_exe=0
312.swim_m      : srcalt=ompl.32
                FOPTIMIZE = -mp -O3 -OPT:Ofast -m3dnow -mcmodel=medium -LNO:simd=0
                OMP_NUM_THREADS=16
                O64_OMP_AFFINITY_MAP=1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31
314.mgrid_m    : basepeak=yes
316.applu_m    : srcalt=ompl
                FOPTIMIZE = -Ofast -march=bdver1 -OPT:early_mp=on -mcmodel=medium
318.galgel_m   : OMP_NUM_THREADS=16
                O64_OMP_AFFINITY_MAP=1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31
                COPTIMIZE = -Ofast -march=bdver1 -mcmodel=medium
                FOPTIMIZE = -Ofast -march=bdver1 -OPT:early_mp=on -mcmodel=medium
320.earthquake_m : srcalt=ompl
                COPTIMIZE = -Ofast -mp -OPT:alias=disjoint -march=bdver1 -mcmodel=medium
324.apsi_m     : basepeak=yes
326.gafort_m   : FOPTIMIZE = -Ofast -march=barcelona -OPT:early_mp=on -mcmodel=medium
328.fma3d_m    : basepeak=yes
330.art_m      : basepeak=yes
332.ampm_m     : basepeak=yes

```

Alternate Sources :

```

314.mgrid_m (base,peak): intel
312.swim_m (peak): ompl.32
316.applu_m (peak): ompl
320.earthquake_m (peak): ompl

```

Additional notes for disk subsystem:

The disk subsystem is mounted through NFS over IPoIB via 4x DDR InfiniBand network. There is no local disk on the system.