



OMPM2001 Result

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Supermicro Corporation
Supermicro H8QM8

SPECompMpeak2001 = 25277
SPECompMbase2001 = 24353

SPEC license #HPG0017 | Tested by: Advanced Micro Devices | Test site: Austin TX | Test date: May-2008 | Hardware AvailJun-2008 | Software AvailNov-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	171	35023	158	37874	
312.swim_m	6000	311	19265	258	23236	
314.mgrid_m	7300	275	26522	275	26522	
316.applu_m	4000	268	14931	268	14931	
318.galgel_m	5100	272	18760	272	18760	
320.quake_m	2600	120	21601	103	25125	
324.apsi_m	3400	103	32887	105	32230	
326.gafort_m	8700	320	27207	320	27207	
328.fma3d_m	4600	258	17825	258	17825	
330.art_m	6400	98.5	64960	98.5	64960	
332.ammp_m	7000	440	15926	434	16135	

Hardware

CPU: Quad-Core AMD Opteron(tm) Processor 8347 HE
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 1-4
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 2 MB I+D on chip per chip
 Other Cache: None
 Memory: 32GB (16x2GB, PC2-5300, CL5 dual-rank)
 Disk Subsystem: 120GB 7200 RPM SATA
 Other Hardware: None

Software

OpenMP Threads: 16
 Parallel: OpenMP
 Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1 2.6.16.46-0.12-smp
 Compiler: PathScale Compiler Suite ver. 3.1
 File System: Linux/Ext3
 System State: Multi-User

Notes/Tuning Information

Extra art Base Flags

330.art_m (extra): -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Alternate Sources:

314.mgrid_m (base and peak): intel

Base tuning:

C : pathcc -gnu3 -mp -Ofast -mcmmodel=medium

Fortran : pathf90 -mp -Ofast -OPT:early_mp=on -mcmmodel=medium

ONESTEP=yes

Peak tuning:

310.wupwise_m: -mp -Ofast -msse3 -LNO:prefetch Ahead=5:prefetch=3
 -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
 -IPA:linear=on:plimit=50000:callee_limit=5000

312.swim_m: -mp -O3 -OPT:Ofast -m3dnow -mcmmodel=medium -LNO:simd=0

314.mgrid_m: basepeak=yes

316.applu_m: basepeak=yes

318.galgel_m: basepeak=yes

320.quake_m: -gnu3 -Ofast -mp -OPT:alias=disjoint

324.apsi_m: -mp -O3 -OPT:Ofast -TENV:x=4 -LNO:fusion=2:prefetch=0

326.gafort_m: basepeak=yes

328.fma3d_m: basepeak=yes

330.art_m: basepeak=yes

332.ammp_m: -gnu3 -mp -Ofast -mcpu=barcelona -mcmmodel=medium

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Notes/Tuning Information (Continued)

```
export PSC_OMP_GUIDED_CHUNK_MAX=700
```

ONESTEP=yes for all peak tests.

Portability flags:

```
318.galgel_m : -fixedform -col80
```

Base and Peak User Environment (bash):

```
export OMP_NUM_THREADS=16
export OMP_DYNAMIC=FALSE
export PSC_OMP_AFFINITY=TRUE
export PSC_OMP_STATIC_FAIR=TRUE
export PSC_OMP_THREAD_SPIN=1000000000
ulimit -s unlimited
```

For flag descriptions, see file AMD-Jul2008-psc31_flags.txt

Default BIOS settings used, except PowerNow! disabled in Bios and OS set to "linux"