



OMPM2001 Result

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Colfax
Supermicro X7DBR-8+ (Intel 64-bit Xeon 5160)

SPECompMpeak2001 = 8497
SPECompMbase2001 = 8408

SPEC license #HPG0017 | Tested by: AMD | Test site: Austin TX | Test date: Nov-2006 | Hardware Avail: Nov-2006 | Software Avail: Oct-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	586	10230	586	10230	
312.swim_m	6000	909	6598	909	6598	
314.mgrid_m	7300	1190	6137	1188	6146	
316.applu_m	4000	563	7101	560	7146	
318.galgel_m	5100	481	10605	484	10538	
320.quake_m	2600	279	9324	272	9552	
324.apsi_m	3400	367	9267	345	9850	
326.gafort_m	8700	1507	5773	1507	5773	
328.fma3d_m	4600	678	6784	679	6776	
330.art_m	6400	304	21038	300	21349	
332.ammp_m	7000	1047	6683	1031	6792	

Hardware

CPU: Intel(R) Xeon(R) 5160
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2
 Primary Cache: 32KBI + 32KBD on chip
 Secondary Cache: 4096KB (I+D) on chip
 L3 Cache: None
 Other Cache: None
 Memory: 4x2GB, FBD PC2-4300 CL4
 Disk Subsystem: 73GB 15k SCSI
 Other Hardware: None

Software

OpenMP Threads: 4
 Parallel: OpenMP + Auto Concurrentization
 Operating System: SLES9 SP3 64bit
 Compiler: PGI Fortran 6.2-4
 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

Base tuning:

C : pgcc -mp -tp=core2-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
 Fortran : pgf90 -mp -tp=core2-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
 ONESTEP=yes

Peak tuning:

ONESTEP=yes for all peak tests.

310.wupwise_m : -mp -tp=core2-64 -fastsse -Minline=level:8 -mcmmodel=medium
 312.swim_m : basepeak=yes
 314.mgrid_m : -mp -tp=core2-64 -fastsse -Mnofptrap -Mlongbranch
 316.applu_m : -mp -tp=core2-64 -fastsse -O4 -Minline=levels:8 -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
 srcalt = ompl.32
 318.galgel_m : -mp -tp=core2-64 -fastsse -Mconcur -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
 320.quake_m : -mp -tp=core2-64 -fastsse -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
 srcalt = ompl.32
 324.apsi_m : -mp -tp=core2-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
 srcalt = ompl.32
 326.gafort_m : basepeak=yes
 328.fma3d_m : -mp -tp=core2-64 -fastsse -O4 -Mvect=assoc -Minline -mcmmodel=medium



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Notes/Tuning Information (Continued)

```
330.art_m      : -mp -fast -Mscalarssse -Mcache_align -Mflushz -Minline -Mpa=fast,inline -Mfprelaxed=rsqrt -mcmodel=medium
332.amp_m      : -mp -tp=core2-64 -fastsse -O -Minline -Mframe -Mipa=fast,inline -Mfprelaxed=rsqrt
Portability flags:
318.galgel_m   : -Mfixed -Mextend
```

Base and Peak User Environment (bash):

```
export OMP_NUM_THREADS=4
export OMP_DYNAMIC=FALSE
export PGI=/opt/pgi
ulimit -s unlimited
```

Default BIOS settings used.

PGI compiler flags are in AMD-20061107-pgi62_flags.txt.