



OMPM2001 Result

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Advanced Micro Devices
Tyan Thunder n6650w (S2915) (AMD Opteron 8220)

SPECompMpeak2001 = 10085
SPECompMbase2001 = 9565

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	547	10975	537	11163	
312.swim_m	6000	602	9970	602	9970	
314.mgrid_m	7300	699	10445	709	10303	
316.applu_m	4000	426	9397	417	9587	
318.galgel_m	5100	506	10074	579	8805	
320.earthquake_m	2600	196	13289	189	13737	
324.apsi_m	3400	402	8459	306	11102	
326.gafort_m	8700	1374	6331	1374	6331	
328.fma3d_m	4600	573	8027	571	8056	
330.art_m	6400	368	17398	247	25935	
332.ammp_m	7000	1228	5701	1245	5623	

Hardware

CPU: AMD Opteron(tm) Processor 8220
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB (I+D) on chip
 L3 Cache: None
 Other Cache: None
 Memory: 8x512MB, PC2-5300 CL4
 Disk Subsystem: 250GB 7200 rpm SATA
 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=k8-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
 Fortran : pgf90 -mp -tp=k8-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
 ONESTEP=yes

Peak tuning:

ONESTEP=yes for all peak tests.

310.wupwise_m : -mp -tp=k8-64 -fastsse -Minline=level:8 -mcmmodel=medium

312.swim_m : basepeak=yes

314.mgrid_m : -mp -tp=k8-64 -fastsse -Mnofptrap -Mlongbranch

316.applu_m : -mp -tp=k8-64 -fastsse -O4 -Minline=levels:8 -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
srcalt = ompl.32

318.galgel_m : -mp -tp=k8-64 -fastsse -Mconcur -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
-I/opt/acml3.5.0/pgi64/include -L/opt/acml3.5.0/pgi64/lib -lacml
RM_SOURCES=lapak.f90

320.earthquake_m : -mp -tp=k8-64 -fastsse -Mipa=fast,inline -Mfprelaxed=rsqrt -mcmmodel=medium
srcalt = ompl.32

324.apsi_m : -mp -tp=k8-64 -fastsse -O4 -Minline=levels:8 -mcmmodel=medium
srcalt = ompl.32



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Notes/Tuning Information (Continued)

```
326.gafort_m      : basepeak=yes
328.fma3d_m       : -mp -tp=k8-64 -fastsse -O4 -Mvect=assoc -Minline -mcmode=medium
330.art_m         : -mp -fast -Mscalarsse -Mcache_align -Mflushz -Minline -Mpa=fast,inline -Mfprelaxed=rsqrt -mcmode=medium
332.amp_m         : -mp -tp=k8-64 -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
export LD_LIBRARY_PATH=/opt/acml3.5.0/pgi64/lib
ulimit -s unlimited
```

Default BIOS settings used.

System can be built using a standard EATX case, Matrox Millennium G450 PCI graphics adapter and an Antec True550 EPS12V power supply.
PGI compiler flags are in AMD-20061107-pgi62_flags.txt.