



OMPM2001 Result

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Advanced Micro Devices
Tyan Thunder n4250 (S4985) (Opteron(TM) 8222 SE)

SPECompMpeak2001 = 22812
SPECompMbase2001 = 22018

SPEC license #HPG0017 | Tested by: AMD | Test site: Austin TX | Test date: Mar-2007 | Hardware Avail: May-2007 | Software Avail: Oct-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	186	32185	176	34079	
312.swim_m	6000	288	20808	252	23770	
314.mgrid_m	7300	318	22971	309	23635	
316.applu_m	4000	285	14037	272	14732	
318.galgel_m	5100	260	19614	260	19614	
320.earthquake_m	2600	115	22654	110	23719	
324.apsi_m	3400	133	25478	126	26958	
326.gafort_m	8700	386	22518	386	22518	
328.fma3d_m	4600	274	16773	274	16773	
330.art_m	6400	115	55857	115	55857	
332.ammp_m	7000	612	11432	600	11668	

Hardware

CPU: Opteron(TM) Processor 8222 SE
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
 CPU(s) orderable: 1,2,4
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB (I+D) on chip
 L3 Cache: None
 Other Cache: None
 Memory: 16x512MB, PC2-5300R CL4
 Disk Subsystem: 250GB 7200 rpm SATA
 Other Hardware: None

Software

OpenMP Threads: 8
 Parallel: OpenMP
 Operating System: SLES9 SP3 64bit
 Compiler: QLogic PathScale Compiler Suite ver. 2.5
 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 : pathcc -mp -Ofast -mcmmodel=medium

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

ONESTEP=yes

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: -mp -Ofast -CG:gcm=off:cflow=off -LNO:fusion=2:prefetch=0 -msse3
 -OPT:early_mp=on:unroll_times_max=8:unroll_size=256:ro=3
 -mcmmodel=medium

316.applu_m: -mp -Ofast -mcmmodel=medium -CG:local_fwd_sched=on
 -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
 -TENV:X=3

318.galgel_m: basepeak=yes

320.earthquake_m: -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



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Notes/Tuning Information (Continued)

```
332. ammp_m: -mp -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
             -fno-math-errno -TENV:X=4 -LNO:prefetch=0
             use_submit_for_speed=1
             submit= PSC_OMP_GUIDED_CHUNK_MAX=700 $command
```

Portability flags:

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

Base and Peak User Environment (bash):

```
export OMP_NUM_THREADS=8
export OMP_DYNAMIC=FALSE
export PSC_OMP_AFFINITY=TRUE
export PSC_OMP_STATIC_FAIR=TRUE
export PSC_OMP_THREAD_SPIN=1000000000
ulimit -s unlimited
```

Default BIOS settings used

AMD PowerNow!(TM) disabled by use of command "powersave -f"