



OMPM2001 Result

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Advanced Micro Devices

Tyan Thunder n6550W (S2915) (Opteron(TM) 2222 SE)

SPECompMpeak2001 = 13627

SPECompMbase2001 = 13275

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	323	18579	311	19309	
312.swim_m	6000	523	11475	479	12525	
314.mgrid_m	7300	561	13009	554	13179	
316.applu_m	4000	406	9856	381	10509	
318.galgel_m	5100	345	14780	345	14780	
320.quake_m	2600	197	13191	190	13676	
324.apsi_m	3400	237	14375	230	14812	
326.gafort_m	8700	656	13259	656	13256	
328.fma3d_m	4600	483	9528	483	9528	
330.art_m	6400	185	34609	185	34609	
332.ammp_m	7000	1039	6735	1020	6863	

Hardware

CPU: Opteron(TM) Processor 2222 SE
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB (I+D) on chip
 L3 Cache: None
 Other Cache: None
 Memory: 8x1GB, PC2-5300R CL4
 Disk Subsystem: 250GB 7200 rpm SATA
 Other Hardware: None

Software

OpenMP Threads: 4
 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 -INLINE:aggressive=on

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

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

326.gafort_m: -Ofast -OPT:early_mp=on -mp -LNO:vintr=0

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
```

Alternate Source:

```
310.wupwise_m : Approved srcalt ompl.32 used for peak
312.swim_m    : Approved srcalt ompl.32 used for peak
314.mgrid_m  : Approved srcalt ompl    used for peak
316.mgrid_m  : Approved srcalt ompl    used for peak
320.equake_m : Approved srcalt ompl.32 used for peak
324.apsi_m   : Approved srcalt ompl    used for peak
```

Base and Peak User Environment (bash):

```
export OMP_NUM_THREADS=4
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, with DRAM bank interleave set to auto
For flag definitions see AMD-20070424-psc25_flags.txt