



OMPM2001 Result

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Advanced Micro Devices
Tyan Thunder n4250QE (S4985E) (Opteron(TM) 8350)

SPECompMpeak2001 = 25777
SPECompMbase2001 = 24623

SPEC license #HPG0017 | Tested by: Advanced Micro Devices | Test site: Austin TX | Test date: Aug-2007 | Hardware Avail: Sep-2007 | Software Avail: Jul-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	163	36782	148	40667	
312.swim_m	6000	279	21528	238	25168	
314.mgrid_m	7300	270	27058	270	27058	
316.applu_m	4000	265	15099	265	15099	
318.galgel_m	5100	266	19161	266	19161	
320.quake_m	2600	117	22255	96.6	26922	
324.apsi_m	3400	107	31745	102	33271	
326.gafort_m	8700	311	27934	311	27934	
328.fma3d_m	4600	274	16773	274	16773	
330.art_m	6400	91.3	70069	91.3	70069	
332.ammp_m	7000	499	14028	494	14168	

Hardware

CPU: Opteron(TM) 8350
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 1, 2, 3, 4 chips
 Primary Cache: 64KBI + 64KBD on chip per core
 Secondary Cache: 512KB (I+D) on chip per core
 L3 Cache: 2MB (I+D) on chip per chip
 Other Cache: None
 Memory: 16x1GB, PC2-5300 CL5
 Disk Subsystem: 160GB 7200 rpm SATA
 Other Hardware: None

Software

OpenMP Threads: 16
 Parallel: OpenMP
 Operating System: SLES10 SP1 64bit
 Compiler: QLogic PathScale Compiler Suite ver. 3.0
 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 -gnu3 -mp -Ofast -mcpu=opteron -mcmmodel=medium
 Fortran : pathf90 -mp -Ofast -mcpu=opteron -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
 -INLINE:aggressive=on
 ompl.32 src.alt used
 312.swim_m: -mp -O3 -OPT:Ofast -m3dnow -mcmmodel=medium -LNO:simd=0
 ompl.32 src.alt used
 314.mgrid_m: basepeak=yes
 ompl src.alt used
 316.applu_m: basepeak=yes
 ompl src.alt used
 318.galgel_m: basepeak=yes
 320.quake_m: -gnu3 -Ofast -mp -OPT:alias=disjoint
 ompl.32 src.alt used



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Notes/Tuning Information (Continued)

```
324.apsi_m: -mp -O3 -OPT:Ofast -TENV:x=4 -LNO:fusion=2:prefetch=0
           ompl src.alt used
```

```
326.gafort_m: basepeak=yes
```

```
328.fma3d_m: basepeak=yes
```

```
330.art_m: basepeak=yes
```

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

Default BIOS settings used, with DRAM bank interleave set to auto

Qlogic Pathscale 3.0 compiler flags are described in AMD-20070828-psc30_flags.txt