OMPM2001 Result

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Advanced Micro Devices

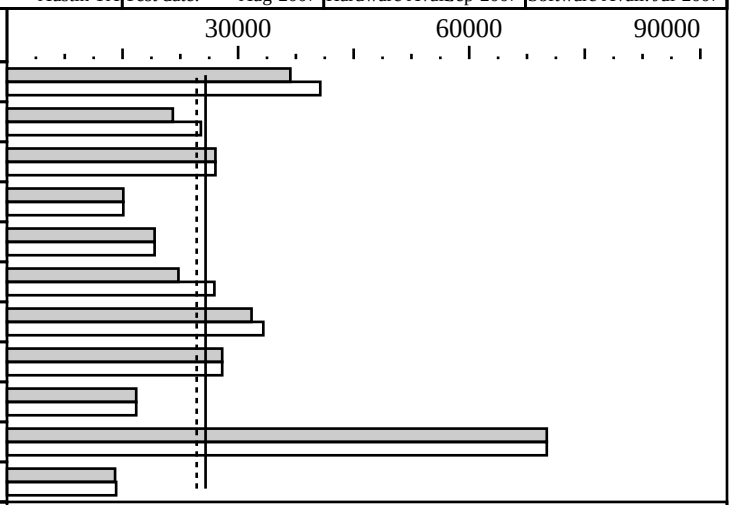
Tyan Thunder n4250QE (S4985E) (Opteron(TM) 8350)

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.equake_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 -mcmodel=medium
  Fortran : pathf90 -mp -Ofast -mcpu=opteron -OPT:early_mp=on -mcmodel=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 -mcmodel=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.equake_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 -mcmodel=medium
                use_submit_for_speed=1
                submit= PSC_OMP_GUIDED_CHUNK_MAX=700 $command


Portablility 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
```