CFP2000 Result

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Advanced Micro Devices

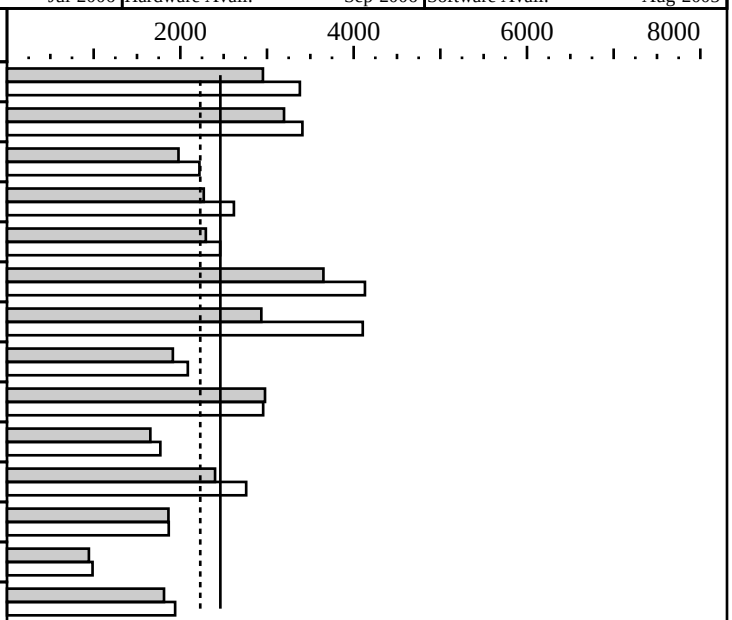
Tyan Thunder K9QE (S4985) AMD Opteron (TM) 2220SE

SPECfp2000 = 2462

SPECfp_base2000 = 2230

SPEC license #: 49 | Tested by: AMD Austin, TX | Test date: Jul-2006 | Hardware Avail: Sep-2006 | Software Avail: Aug-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	54.2	2953	47.3	3379
171.swim	3100	97.0	3197	90.9	3409
172.mgrid	1800	91.0	1979	81.1	2220
173.applu	2100	92.5	2270	80.2	2618
177.mesa	1400	61.0	2294	56.9	2460
178.galgel	2900	79.4	3651	70.2	4130
179.art	2600	88.6	2935	63.3	4105
183.equake	1300	67.9	1914	62.3	2086
187.facerec	1900	63.8	2977	64.3	2956
188.ammp	2200	133	1654	124	1769
189.lucas	2000	83.3	2401	72.5	2760
191.fma3d	2100	113	1863	113	1866
200.sixtrack	1100	116	945	111	987
301.apsi	2600	144	1812	134	1940



Hardware

CPU:	AMD Opteron (TM) 2220SE
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1,2,4
Parallel:	No
Primary Cache:	64KBI + 64KBD on chip per core
Secondary Cache:	1024KB (I+D) on chip per core
L3 Cache:	N/A
Other Cache:	N/A
Memory:	4x512MB, DDR2-667 CL4 ECC Reg
Disk Subsystem:	SATA, 74GB
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 9 SP3 (64-bit)
Compiler:	PathScale EKOPath(TM) Compiler Suite, Release 2.3
File System:	Linux/ext3
System State:	Multi-user, run level 3

Notes/Tuning Information

```
  +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata
  +ACML  means -L<acml2.7.0-install-dir>/pathscale64/lib -lacml,
         which causes linking with AMD Core Math Library V2.7.0

  Baseline optimization
    C programs:       -Ofast -WOPT:mem_opnds=on +FDO
    Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
  Portability Flags:
    178.galgel: -fixedform

 Peak Tuning:
  168.wupwise:  -Ofast -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
  171.swim:     -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
```

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Notes/Tuning Information (Continued)

```
172.mgrid:    -Ofast -CG:gcm=off -OPT:IEEE_arith=3:unroll_size=200
              -LNO:fusion=2:fission=1:blocking=off:prefetch_ahead=2
              -WOPT:mem_opnds=on:aggstr=0
173.applu:    -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
              -LNO:fusion=2:fission=2:full_unroll_size=10000 +FDO
177.mesa:    -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on -WOPT:mem_opnds=on +FDO
178.galgel:   -Ofast -OPT:fast_complex=on +ACML +FDO
               RM_SOURCES=lapak.f90
179.art:      -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.equake:   -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec:  -Ofast -LNO:fusion=2
              -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.ammp:     -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
              -fno-math-errno -TENV:X=4 +FDO
189.lucas:    -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:mem_opnds=on +FDO
191.fma3d:    -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
              -WOPT:mem_opnds=on:retype_expr=on -IPA:pu_reorder=1 +FDO
200.sixtrack: -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on
              -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:     -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

All memory slots populated on all CPU(s)
The system can be built using a Zippy 700W EPS12V power supply and any SSI-MEB case.
BIOS Changes: Enable Basic ECC
```