CFP2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

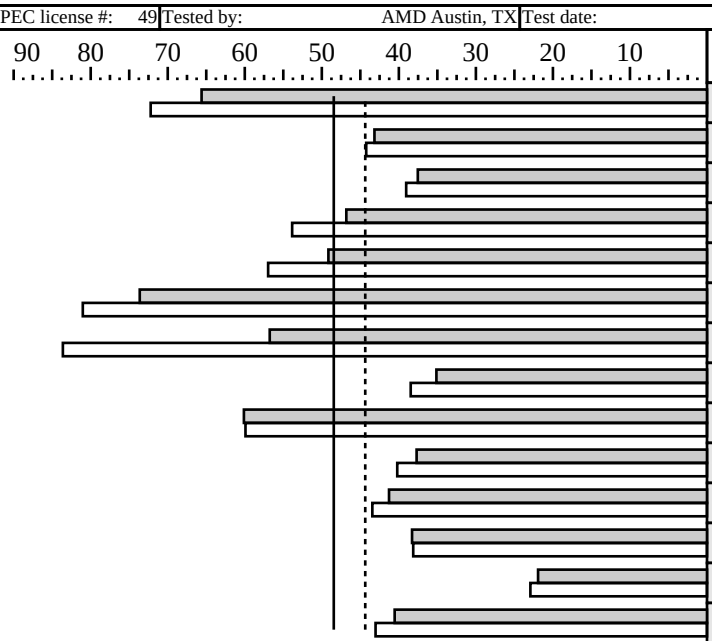
Advanced Micro Devices

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

SPECfp_rate2000 = 48.4

SPECfp_rate_base2000 = 44.4

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	56.6	65.6	2	51.4	72.2
171.swim	2	167	43.2	2	163	44.2
172.mgrid	2	111	37.5	2	107	39.0
173.applu	2	104	46.8	2	90.5	53.9
177.mesa	2	66.1	49.1	2	57.0	57.0
178.galgel	2	91.4	73.6	2	83.0	81.0
179.art	2	106	56.8	2	72.1	83.6
183.equake	2	85.9	35.1	2	78.4	38.5
187.facerec	2	73.3	60.1	2	73.6	59.9
188.ammp	2	135	37.7	2	127	40.2
189.lucas	2	112	41.3	2	107	43.4
191.fma3d	2	127	38.3	2	128	38.1
200.sixtrack	2	116	21.9	2	111	22.9
301.apsi	2	149	40.5	2	140	43.0

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
```

Copyright ©1999-2005, Standard Performance Evaluation Corporation

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)
taskset utility used to bind CPU(s) to processes.
The system can be built using a Zippy 700W EPS12V power supply and any SSI-MEB case.
BIOS Changes: Enable Basic ECC
```