CFP2000 Result

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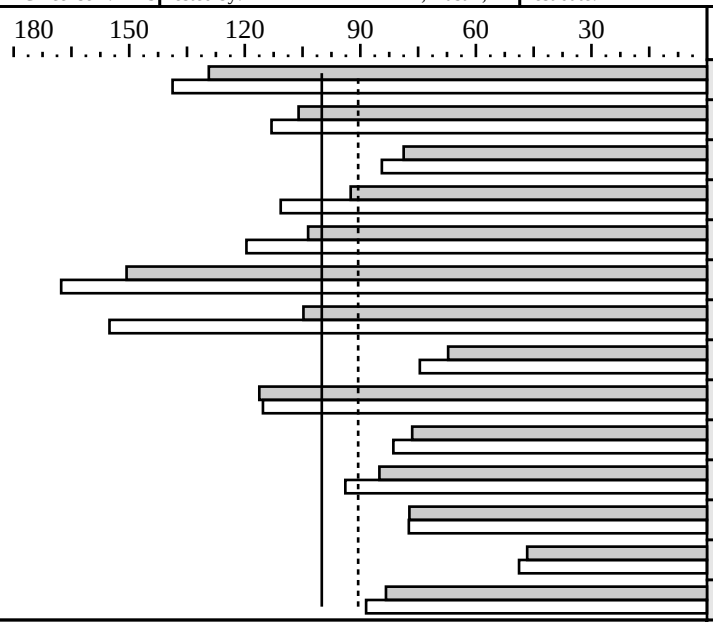
Advanced Micro Devices

TYAN Thunder K8QW (S4881), AMD Opteron(TM) 856

SPECfp_rate2000 = 100

SPECfp_rate_base2000 = 90.6

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Mar-2006 | Hardware Avail: Apr-2006 | Software Avail: Jan-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	57.4	129	4	53.5	139
171.swim	4	136	106	4	127	113
172.mgrid	4	106	78.8	4	98.9	84.4
173.applu	4	105	92.5	4	88.0	111
177.mesa	4	62.7	104	4	54.3	120
178.galgel	4	89.3	151	4	80.3	168
179.art	4	115	105	4	77.8	155
183.equake	4	89.8	67.2	4	80.9	74.6
187.facerec	4	75.9	116	4	76.5	115
188.ammp	4	133	76.5	4	125	81.4
189.lucas	4	109	85.0	4	98.8	93.9
191.fma3d	4	126	77.3	4	126	77.4
200.sixtrack	4	109	46.7	4	105	48.8
301.apsi	4	145	83.3	4	136	88.5

Hardware

CPU:	AMD Opteron(TM) 856
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	1,2,4
Parallel:	No
Primary Cache:	64KBI + 64KBD on chip
Secondary Cache:	1024KB (I+D) on chip
L3 Cache:	N/A
Other Cache:	N/A
Memory:	8x512MB, DDR400 CL3 ECC Reg
Disk Subsystem:	SATA, 250 GB
Other Hardware:	None

Software

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

Notes/Tuning Information

```
Tested by Advanced Micro Devices

 +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
```

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Notes/Tuning Information (Continued)

```
171.swim:     -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
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

BIOS 1.04
2 DIMMS/CPU in dual channel configuration
Tested system can be built with an SSI EEB case and
a Zippy 700W power supply
Taskset utility used to bind CPU(s) to processes
```