CFP2000 Result

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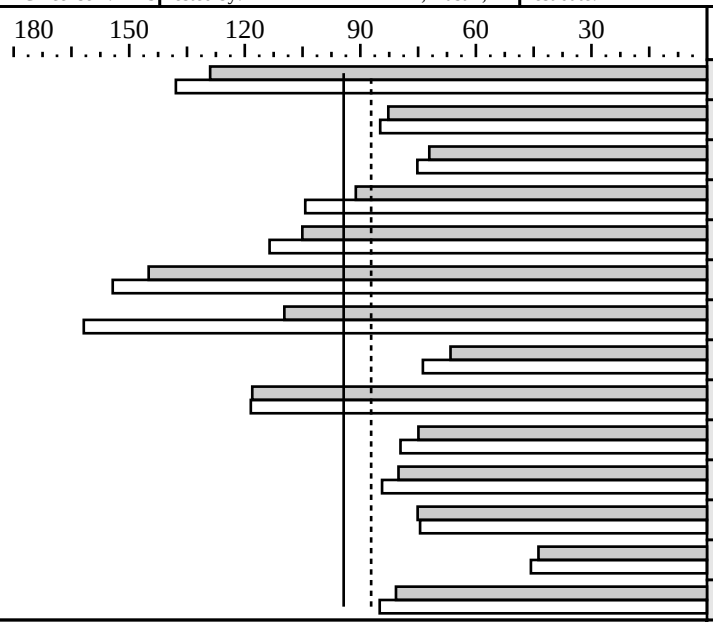
AMD

Tyan Thunder n4250QE (S4985), Opteron (TM) 2220

SPECfp_rate2000 = 94.3

SPECfp_rate_base2000 = 87.2

SPEC license #: 49 | Tested by: AMD, Austin, TX | Test date: Jan-2007 | Hardware Avail: Feb-2007 | Software Avail: Aug-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	57.6	129	4	53.8	138
171.swim	4	174	82.7	4	170	84.8
172.mgrid	4	116	72.1	4	111	75.2
173.applu	4	107	91.2	4	93.4	104
177.mesa	4	61.8	105	4	57.2	114
178.galgel	4	92.8	145	4	87.2	154
179.art	4	110	110	4	74.6	162
183.equake	4	90.6	66.6	4	81.8	73.8
187.facerec	4	74.7	118	4	74.4	118
188.ammp	4	136	74.9	4	128	79.6
189.lucas	4	116	80.1	4	110	84.4
191.fma3d	4	130	75.1	4	131	74.5
200.sixtrack	4	117	43.8	4	112	45.7
301.apsi	4	149	80.7	4	142	85.0

Hardware

CPU:	AMD Opteron (TM) 2220
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2
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:	8x1GB, DDR2-667 CL4 ECC Reg Dual rank
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

```
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

System can be built with a 700W Zippy Power Supply
All memory slots populated on all CPU(s)
taskset utility used to bind CPU(s) to processes.
```