



CFP2000 Result

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Advanced Micro Devices

TYAN Thunder K8QSD Pro (S4882-D), AMD Opteron (TM) 280

SPECfp_rate2000 = 73.6

SPECfp_rate_base2000 = 68.7

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	70.1	106	4	65.7	113
171.swim	4	243	59.3	4	241	59.7
172.mgrid	4	158	53.0	4	153	54.5
173.applu	4	133	73.3	4	121	80.7
177.mesa	4	78.6	82.6	4	73.4	88.5
178.galgel	4	118	114	4	112	120
179.art	4	132	91.3	4	93.9	128
183.quake	4	116	52.2	4	105	57.6
187.facerec	4	96.0	91.9	4	93.7	94.1
188.amp	4	166	61.5	4	157	65.0
189.lucas	4	147	63.1	4	143	64.7
191.fma3d	4	165	59.2	4	166	58.6
200.sixtrack	4	150	34.1	4	143	35.7
301.apsi	4	184	65.7	4	171	70.6

Hardware

CPU: AMD Opteron (TM) 280
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1-2
 Parallel: No
 Primary Cache: 64KBI + 64KBD/core
 Secondary Cache: 1024KB (I+D)/core
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 8x512 MB, DDR400 ECC Reg CL2
 Disk Subsystem: SATA, Western Digital WD740GD, 74 GB 10000 RPM
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 9 (SP2) for AMD64
 Compiler: PathScale EKOPATH(TM) Compiler Suite, Release 2.2.1
 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<acml2.5.1-install-dir>/pathscale64/lib -lacml,
 which causes linking with AMD Core Math Library V2.5.1

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)

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171.swim:      -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
172.mgrid:    -Ofast -CG:gcm=off:cflow=on -OPT:IEEE_a=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:prefetch=3 +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.quake:    -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

```

The system under test can be built using a SSI MEB case and a Zippy Technology Corp. PSL-6701P 12V 700W power supply. Taskset utility used to bind CPU(s) to processes. All memory slots populated on all CPU(s). BIOS Rev E 1.03