



CFP2000 Result

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Advanced Micro Devices
Tyan Thunder K9HM (S3992), AMD Opteron (TM) 2218

SPECfp2000 = **2351**
SPECfp_base2000 = **2121**

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	56.5	2834	51.0	3139	
171.swim	3100	98.8	3139	92.6	3347	
172.mgrid	1800	96.2	1871	85.2	2112	
173.applu	2100	96.4	2178	84.2	2495	
177.mesa	1400	71.1	1969	61.4	2282	
178.galgel	2900	83.1	3488	72.9	3977	
179.art	2600	91.3	2847	64.6	4023	
183.quake	1300	70.1	1855	63.9	2036	
187.facerec	1900	66.1	2873	67.1	2831	
188.amp	2200	141	1555	132	1665	
189.lucas	2000	84.3	2374	73.4	2726	
191.fma3d	2100	118	1784	117	1789	
200.sixtrack	1100	126	872	121	911	
301.apsi	2600	151	1718	142	1826	

Hardware

CPU: AMD Opteron (TM) 2218
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 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: 4x512MB, DDR2-667 CL4 ECC Reg
Disk Subsystem: IDE, 120 GB
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)

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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: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

```

system can be built using a standard ATX case and a Zippy 700W PSL-6701P power supply
Half memory slots populated on CPU in dual channel configuration