



CFP2000 Result

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Rackable Systems
C1000-A03-25F26 (AMD Opteron 2218)

SPECfp2000 = 2164
SPECfp_base2000 = 1991

SPEC license #: 64 Tested by: Rackable Systems Test date: Jul-2006 Hardware Avail: Aug-2006 Software Avail: Mar-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	57.5	2785	53.3	3003	
171.swim	3100	116	2662	107	2908	
172.mgrid	1800	104	1725	94.5	1904	
173.applu	2100	98.5	2132	90.3	2327	
177.mesa	1400	68.3	2050	64.4	2173	
178.galgel	2900	89.9	3225	81.1	3577	
179.art	2600	101	2563	73.7	3526	
183.quake	1300	77.9	1670	73.7	1763	
187.facerec	1900	72.8	2608	71.3	2666	
188.amp	2200	144	1532	139	1579	
189.lucas	2000	98.4	2033	85.8	2332	
191.fma3d	2100	125	1684	127	1656	
200.sixtrack	1100	125	880	120	917	
301.apsi	2600	157	1656	146	1775	

Hardware

CPU: AMD Opteron 2218
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 chip(s)
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: 4x1024MB, DDR2 5300
Disk Subsystem: 1 x 250GB SATA
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux 4 Update 2 x86_64
Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.4 (for C and Fortran)
AMD Core Mathematical Library (ACML), Version 3.1.0
File System: Linux/ext3
System State: Multi-user, run level 3

Notes/Tuning Information

Portability flags:

178.galgel: -fixedform

Feedback Optimization:

+FDO: PASS1=-fb_create fbdata PASS2=-fb_opt fbdata

AMD Core Math Library

+ACML means -L<acml-install-dir>/pathscale64/lib -lacml, which causes linking with AMD Core Math Library

Baseline Optimization Flags:

C programs: -Ofast -WOPT:mem_opnds=on +FDO

Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO

Peak Tuning Flags:

168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3

-OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3



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Notes/Tuning Information (Continued)

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-IPA:linear=on:plimit=50000:callee_limit=5000
-INLINE:aggressive=on
171.swim: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnw
172.mgrid: -Ofast -CG:gcm=off -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
179.art: -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.earthquake: -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.ammpp: -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
Taskset utility used to bind process to CPU(s)

```