



CFP2000 Result

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IBM Corporation

AMD Opteron LS41 for IBM BladeCenter (AMD Opteron (TM) 8216)

SPECfp2000 = 1872

SPECfp_base2000 = 1693

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Aug-2006 | Hardware Avail: Aug-2006 | Software Avail: Mar-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
168.wupwise	1600	68.0	2352	61.7	2592				
171.swim	3100	162	1917	118	2636				
172.mgrid	1800	115	1560	105	1711				
173.applu	2100	118	1783	104	2014				
177.mesa	1400	76.2	1838	71.5	1957				
178.galgel	2900	100	2895	101	2870				
179.art	2600	125	2080	91.7	2835				
183.earth	1300	101	1292	92.7	1403				
187.facerec	1900	86.4	2200	85.4	2224				
188.amp	2200	164	1341	159	1382				
189.lucas	2000	110	1818	93.1	2148				
191.fma3d	2100	144	1459	146	1441				
200.sixtrack	1100	141	782	132	834				
301.apsi	2600	180	1448	167	1553				

Hardware

CPU: AMD Opteron 8216
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
CPU(s) orderable: 1,2,3,4
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: 16x2GB, PC2-5300
Disk Subsystem: SAS, 36GB 10K RPM
Other Hardware: None

Software

Operating System: SuSE Linux 9.0 SP3 SLES 64 bit Kernel 2.6.5-7.244-smp
Compiler: PathScale EKO Compiler Suite, Release 2.4
PathScale EKOPATH(TM) Compiler Suite, Release 2.4
File System: Linux/reiserfs
System State: Multi-user, run level 3

Notes/Tuning Information

+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
+ACML means -L<acml3.0.0-install-dir>/pathscale64/lib -lacml,
which causes linking with AMD Core Math Library V3.0.0

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 -IPA:linear=on -LNO:prefetch Ahead=5:prefetch=3
-OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
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



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Notes/Tuning Information (Continued)

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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.quake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec: -Ofast -IPA:plimit=1500 -LNO:fusion=2
            -OPT:IEEE_NaN_Inf=off:ro=3:unroll_size=0 +FDO
188.ammmp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
            -GRA:optimize_boundary=on -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:early_intrinsics=on
            -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:   -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```