



CFP2000 Result

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IBM Corporation

AMD Opteron LS21 for IBM BladeCenter (AMD Opteron (TM) 2212)

SPECfp_rate2000 = 77.0

SPECfp_rate_base2000 = 71.6

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	73.7	101	4	66.6	112
171.swim	4	173	82.9	4	171	84.2
172.mgrid	4	135	61.7	4	125	66.8
173.applu	4	125	77.9	4	115	84.7
177.mesa	4	87.2	74.5	4	81.8	79.4
178.galgel	4	114	118	4	113	119
179.art	4	126	95.9	4	91.8	131
183.quake	4	103	58.3	4	94.6	63.7
187.facerec	4	93.9	93.9	4	89.6	98.3
188.amp	4	180	56.8	4	172	59.4
189.lucas	4	124	74.8	4	115	80.9
191.fma3d	4	159	61.2	4	161	60.5
200.sixtrack	4	163	31.2	4	156	32.7
301.apsi	4	197	61.3	4	185	65.3

Hardware

CPU: AMD Opteron 2212
 CPU MHz: 2000
 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: 8x2GB, 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

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
 173.applu: -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
 -LNO:fusion=2:fission=2:full_unroll_size=10000 +FDO



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Notes/Tuning Information (Continued)

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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 +FDO
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.amp:       -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

```