



CFP2000 Result

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IBM Corporation
IBM System X 3655 (AMD Opteron (TM) 2218)

SPECfp_rate2000 = **89.3**
SPECfp_rate_base2000 = **83.1**

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	61.8	120	4	55.1	135
171.swim	4	172	83.7	4	170	84.7
172.mgrid	4	119	70.0	4	114	73.4
173.applu	4	108	90.4	4	97.9	99.6
177.mesa	4	68.0	95.5	4	63.8	102
178.galgel	4	97.5	138	4	98.1	137
179.art	4	112	107	4	79.7	151
183.equake	4	94.0	64.2	4	85.4	70.6
187.facerec	4	81.3	108	4	78.3	113
188.amp	4	144	70.9	4	138	73.8
189.lucas	4	120	77.5	4	114	81.5
191.fma3d	4	135	72.4	4	136	71.8
200.sixtrack	4	126	40.4	4	120	42.5
301.apsi	4	161	75.1	4	151	79.9

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
 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, 73GB 15K 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

```