



CFP2000 Result

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IBM Corporation
IBM System X 3105 (AMD Opteron (TM) 1210)

SPECfp_rate2000 = 33.8
SPECfp_rate_base2000 = 31.4

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	80.8	45.9	2	71.0	52.3
171.swim	2	228	31.6	2	219	32.8
172.mgrid	2	156	26.8	2	144	28.9
173.applu	2	141	34.5	2	129	37.7
177.mesa	2	97.4	33.3	2	91.2	35.6
178.galgel	2	131	51.2	2	132	51.0
179.art	2	136	44.4	2	99.4	60.7
183.quake	2	114	26.3	2	105	28.7
187.facerec	2	102	43.1	2	97.9	45.0
188.amp	2	199	25.6	2	191	26.7
189.lucas	2	157	29.5	2	153	30.3
191.fma3d	2	177	27.6	2	179	27.2
200.sixtrack	2	182	14.0	2	173	14.7
301.apsi	2	223	27.1	2	208	29.1

Hardware

CPU: AMD Opteron 1210
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
CPU(s) orderable: 1 chip
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: 4x1GB, PC2-5300
Disk Subsystem: SATA, 80GB 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.ampp:     -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

```