



CFP2000 Result

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IBM Corporation
IBM System X 3655 (AMD Opteron 2220)

SPECfp_rate2000 = 92.3
SPECfp_rate_base2000 = 85.4

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Feb-2007 | Hardware Avail: Feb-2007 | Software Avail: Oct-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	58.2	128	4	54.8	136
171.swim	4	176	81.6	4	172	83.5
172.mgrid	4	117	71.5	4	111	75.3
173.applu	4	106	91.9	4	96.5	101
177.mesa	4	64.5	101	4	60.4	107
178.galgel	4	97.2	138	4	89.1	151
179.art	4	110	109	4	75.8	159
183.equake	4	92.9	64.9	4	84.2	71.6
187.facerec	4	79.0	112	4	76.8	115
188.amp	4	140	72.7	4	131	77.9
189.lucas	4	122	75.9	4	117	79.6
191.fma3d	4	129	75.4	4	131	74.2
200.sixtrack	4	117	43.4	4	111	46.1
301.apsi	4	150	80.4	4	144	84.0

Hardware

CPU: AMD Opteron 2220
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Parallel: No
 Primary Cache: 64 KB I + 64 KB D on chip (per core)
 Secondary Cache: 1 MB I+D on chip (per core)
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 16 GB (8x2 GB PC2-5300)
 Disk Subsystem: 1x36 GB 15K SAS
 Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 9 (x86_64) SP 3
 SuSE kernel 2.6.5-7.244-default
 Compiler: PathScale EKOPATH(TM) Compiler Suite, Release 2.5
 AMD Core Math Library 3.5.0
 File System: Linux/ext2
 System State: Multi-user run level 3

Notes/Tuning Information

+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
 +ACML means -L/pathscale64/lib -lacml,
 which causes linking with AMD Core Math Library V2.7.0

Base tuning for C programs: -Ofast -WOPT:mem_opnds=on +FDO
 Base tuning for FORTRAN programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
 Portability flags:

178.galgel: -fixedform
 Peak tuning:
 168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3
 -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
 -IPA:linear=on:plimit=50000:callee_limit=5000 -INLINE:aggressive=on
 171.swim: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
 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 +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 RM_SOURCES=lapak.f90 +FDO +acml
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 -LNO:fusion=2 -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.amp:       -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

```