



CFP2000 Result

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IBM Corporation
IBM System X 3455 (AMD Opteron (TM) 2210)

SPECfp2000 = 1613
SPECfp_base2000 = 1481

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	80.4	1991	70.8	2259	
171.swim	3100	141	2199	131	2362	
172.mgrid	1800	139	1296	123	1469	
173.applu	2100	135	1555	122	1717	
177.mesa	1400	97.6	1434	91.3	1533	
178.galgel	2900	119	2432	119	2441	
179.art	2600	131	1982	98.3	2646	
183.earthquake	1300	104	1246	96.5	1347	
187.facerec	1900	99.1	1916	96.6	1966	
188.ammpp	2200	201	1096	192	1143	
189.lucas	2000	117	1702	100	1997	
191.fma3d	2100	170	1238	172	1223	
200.sixtrack	1100	182	603	174	634	
301.apsi	2600	216	1202	201	1292	

Hardware

CPU: AMD Opteron 2210
CPU MHz: 1800
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: 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.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

```