



CFP2000 Result

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IBM Corporation

AMD Opteron LS21 for IBM BladeCenter (AMD Opteron (TM) 2218)

SPECfp2000 = 2228

SPECfp_base2000 = 1999

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	Performance (Ratio)			
						1000	2000	3000	4000
168.wupwise	1600	57.9	2765	50.9	3146				
171.swim	3100	107	2896	98.7	3141				
172.mgrid	1800	99.2	1815	88.5	2033				
173.applu	2100	96.8	2169	87.7	2393				
177.mesa	1400	69.4	2017	65.0	2154				
178.galgel	2900	87.4	3317	86.4	3356				
179.art	2600	94.2	2760	70.1	3707				
183.quake	1300	101	1284	70.2	1852				
187.facerec	1900	71.4	2662	69.2	2744				
188.amp	2200	144	1531	138	1597				
189.lucas	2000	91.2	2193	78.3	2555				
191.fma3d	2100	120	1755	121	1733				
200.sixtrack	1100	129	855	121	909				
301.apsi	2600	160	1627	148	1760				

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, 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

```