CFP2000 Result

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IBM Corporation

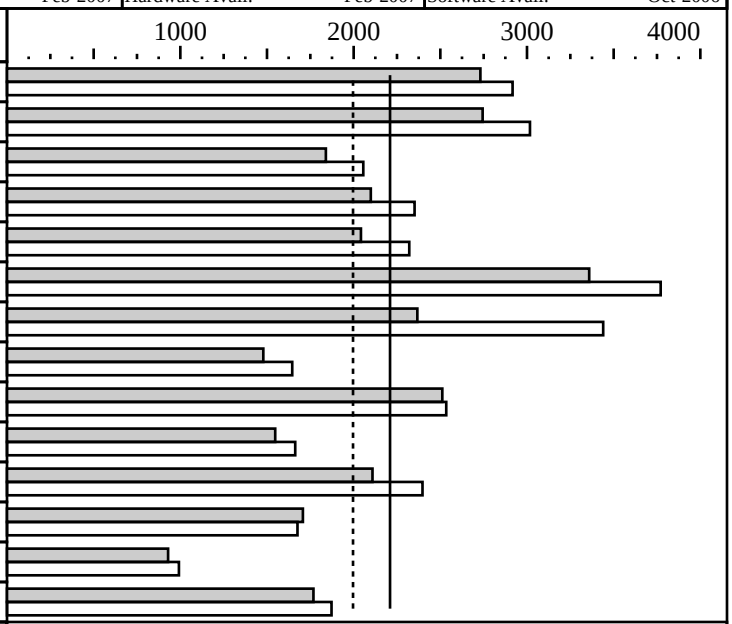
IBM BladeCenter LS41 (AMD Opteron 8220)

SPECfp2000 = 2210

SPECfp_base2000 = 1996

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	58.6	2731	54.9	2917
171.swim	3100	113	2744	103	3017
172.mgrid	1800	97.8	1840	87.6	2055
173.applu	2100	100	2099	89.3	2351
177.mesa	1400	68.6	2042	60.3	2321
178.galgel	2900	86.3	3359	76.9	3771
179.art	2600	110	2367	75.6	3440
183.equake	1300	87.9	1479	79.0	1646
187.facerec	1900	75.7	2511	75.0	2534
188.ammp	2200	142	1547	132	1663
189.lucas	2000	94.8	2109	83.4	2397
191.fma3d	2100	123	1707	125	1676
200.sixtrack	1100	118	929	111	992
301.apsi	2600	147	1768	139	1872



Hardware

CPU:	AMD Opteron 8220
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1,2,3,4 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:	32 GB (15x2 GB PC2-5300)
Disk Subsystem:	1x73 GB 10K 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)

```
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.equake:     -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.ammp:       -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
```