CFP2000 Result

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IBM Corporation

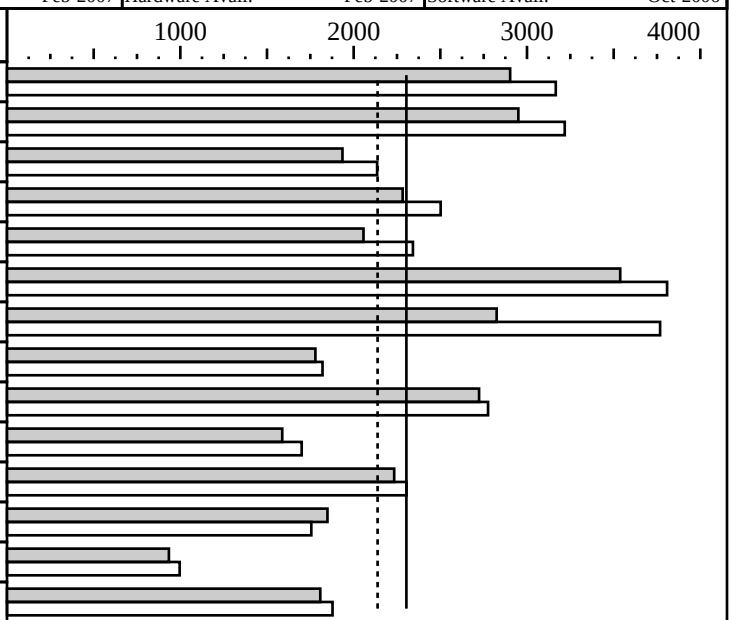
IBM BladeCenter LS21 (AMD Opteron 2220)

SPECfp2000 = 2304

SPECfp_base2000 = 2138

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	55.1	2903	50.5	3166
171.swim	3100	105	2950	96.3	3218
172.mgrid	1800	93.0	1935	84.3	2135
173.applu	2100	92.0	2283	83.9	2502
177.mesa	1400	68.1	2057	59.8	2342
178.galgel	2900	82.0	3538	76.2	3808
179.art	2600	92.0	2825	69.0	3768
183.equake	1300	73.1	1779	71.4	1820
187.facerec	1900	69.8	2724	68.5	2775
188.ammp	2200	139	1588	129	1700
189.lucas	2000	89.5	2234	86.8	2305
191.fma3d	2100	114	1849	120	1756
200.sixtrack	1100	118	934	110	996
301.apsi	2600	144	1807	138	1878



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:	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
```