CFP2000 Result

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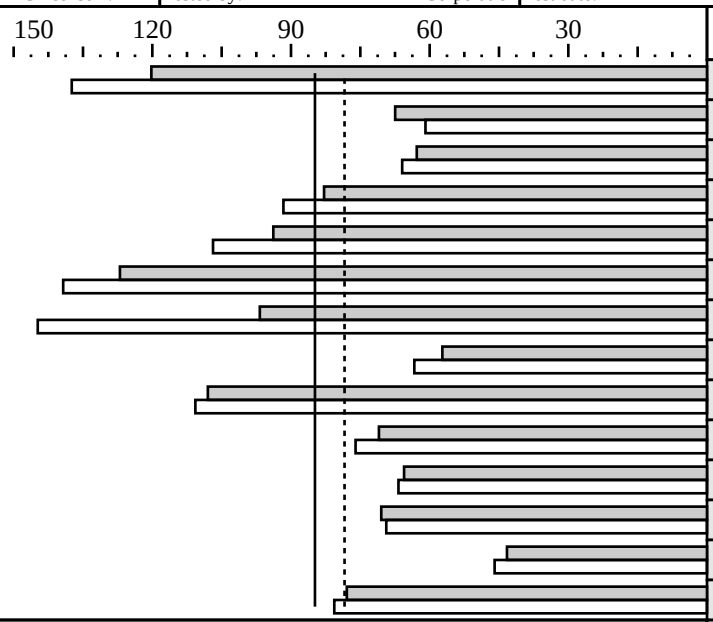
IBM Corporation

IBM BladeCenter LS21 (AMD Opteron 2220)

SPECfp_rate2000 = 84.8

SPECfp_rate_base2000 = 78.4

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	61.8	120	4	54.0	137
171.swim	4	213	67.5	4	236	60.9
172.mgrid	4	133	62.8	4	127	65.9
173.applu	4	118	82.8	4	106	91.6
177.mesa	4	69.2	93.8	4	60.8	107
178.galgel	4	106	127	4	96.6	139
179.art	4	125	96.7	4	83.3	145
183.equake	4	105	57.3	4	95.3	63.3
187.facerec	4	81.6	108	4	79.6	111
188.ammp	4	144	71.0	4	134	76.0
189.lucas	4	142	65.5	4	139	66.8
191.fma3d	4	138	70.5	4	140	69.4
200.sixtrack	4	118	43.3	4	111	45.9
301.apsi	4	155	77.9	4	150	80.6

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
```