



CFP2000 Result

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IBM Corporation
IBM eServer e326 (AMD Opteron (TM) 246)

SPECfp2000 = 1580
SPECfp_base2000 = 1451

SPEC license #: 11 | Tested by: IBM, Inc. | Test date: Apr-2005 | Hardware Avail: Sep-2005 | Software Avail: Apr-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
168.wupwise	1600	81.2	1971	73.0	2191	[Bar chart showing ratio 2191]			
171.swim	3100	137	2262	133	2337	[Bar chart showing ratio 2337]			
172.mgrid	1800	134	1348	119	1514	[Bar chart showing ratio 1514]			
173.applu	2100	138	1526	120	1747	[Bar chart showing ratio 1747]			
177.mesa	1400	92.8	1509	85.7	1633	[Bar chart showing ratio 1633]			
178.galgel	2900	123	2350	108	2692	[Bar chart showing ratio 2692]			
179.art	2600	127	2045	96.9	2682	[Bar chart showing ratio 2682]			
183.quake	1300	108	1206	103	1257	[Bar chart showing ratio 1257]			
187.facerec	1900	106	1794	96.6	1967	[Bar chart showing ratio 1967]			
188.amp	2200	224	980	212	1036	[Bar chart showing ratio 1036]			
189.lucas	2000	142	1405	142	1405	[Bar chart showing ratio 1405]			
191.fma3d	2100	173	1214	168	1249	[Bar chart showing ratio 1249]			
200.sixtrack	1100	172	638	163	676	[Bar chart showing ratio 676]			
301.apsi	2600	217	1199	209	1242	[Bar chart showing ratio 1242]			

Hardware

CPU: AMD Opteron 246
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 1,2
Parallel: No
Primary Cache: 64KBI + 64KBD on chip
Secondary Cache: 1024KB (I+D) on chip
L3 Cache: N/A
Other Cache: N/A
Memory: 8 x 1GB, DDR400
Disk Subsystem: SCSI, 36GB 10K RPM
Other Hardware: None

Software

Operating System: SuSE Linux 9.0 SP1 SLES 64 bit Kernel 2.6.5-7.151-smp (SP1)
Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.1
File System: Linux/reiserfs
System State: Multi-user, run level 3

Notes/Tuning Information

Tested by IBM, Inc.

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
+ACML means -L/opt/acml2.5.1/pathscale64/lib -lacml,
which causes linking with AMD Core Math Library V2.5.1
```

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 -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
```



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Notes/Tuning Information (Continued)

```

171.swim:      -Ofast -LNO:fusion=2 -m3dnow
172.mgrid:    -O3 -LNO:fusion=2:blocking=off
              -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3
              -CG:gcm=off:cflow=off -m3dnow
173.applu:    -Ofast -CG:local_fwd_sched=on
              -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
              -OPT:ro=3 -TENV:X=3
177.mesa:     -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel:   -Ofast -OPT:fast_complex=on +ACML
179.art:      -O3 -OPT:ro=2:div_split=on:alias=tuned -fno-math-errno -m32
183.quake:   -Ofast -CG:load_exe=2 -OPT:treeheight=on -WOPT:mem_opnds=on -m32
187.facerec: -Ofast -OPT:IEEE_NaN_Inf=off:ro=3 -LNO:fusion=2
              -IPA:plimit=1500 +FDO
188.ammpp:   -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
              -fno-math-errno -TENV:X=4 +FDO
189.lucas:   basepeak = true
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 -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:    -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0

```