



# CFP2000 Result

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IBM Corporation  
IBM eServer e326 (AMD Opteron (TM) 265)

SPECfp\_rate2000 = 59.6  
SPECfp\_rate\_base2000 = 55.2

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	82.5	89.9	4	75.8	98.0
171.swim	4	248	58.1	4	243	59.2
172.mgrid	4	171	48.7	4	161	52.0
173.applu	4	151	64.4	4	139	70.0
177.mesa	4	100	64.9	4	92.4	70.3
178.galgel	4	149	90.6	4	138	97.6
179.art	4	156	77.5	4	109	111
183.equake	4	129	46.9	4	118	51.3
187.facerec	4	124	71.3	4	115	76.9
188.amp	4	276	37.0	4	262	39.0
189.lucas	4	193	48.0	4	193	48.0
191.fma3d	4	196	49.8	4	195	50.0
200.sixtrack	4	189	26.9	4	180	28.4
301.apsi	4	296	40.8	4	287	42.0

**Hardware**

CPU: AMD Opteron 265  
CPU MHz: 1800  
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  
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=typed -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

```