



CFP2000 Result

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IBM

IBM eServer 326m, 2.8 GHz AMD Opteron(tm) Processor 254

SPECfp2000 = 2223

SPECfp_base2000 = 2007

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Nov-2005 | Hardware Avail: Nov-2005 | Software Avail: Nov-2005

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio | 1000 2000 3000 4000 | | | |
|--------------|----------------|--------------|------------|---------|-------|--------------------------------|--|--|--|
| 168.wupwise | 1600 | 58.1 | 2754 | 51.0 | 3140 | [Bar chart showing ratio 3140] | | | |
| 171.swim | 3100 | 125 | 2487 | 118 | 2623 | [Bar chart showing ratio 2623] | | | |
| 172.mgrid | 1800 | 99.8 | 1804 | 93.4 | 1926 | [Bar chart showing ratio 1926] | | | |
| 173.applu | 2100 | 98.0 | 2142 | 89.0 | 2359 | [Bar chart showing ratio 2359] | | | |
| 177.mesa | 1400 | 62.8 | 2230 | 59.1 | 2370 | [Bar chart showing ratio 2370] | | | |
| 178.galgel | 2900 | 88.2 | 3288 | 78.7 | 3686 | [Bar chart showing ratio 3686] | | | |
| 179.art | 2600 | 97.8 | 2660 | 69.3 | 3751 | [Bar chart showing ratio 3751] | | | |
| 183.quake | 1300 | 78.9 | 1647 | 71.1 | 1828 | [Bar chart showing ratio 1828] | | | |
| 187.facerec | 1900 | 73.1 | 2598 | 70.3 | 2702 | [Bar chart showing ratio 2702] | | | |
| 188.amp | 2200 | 136 | 1619 | 129 | 1712 | [Bar chart showing ratio 1712] | | | |
| 189.lucas | 2000 | 99.6 | 2009 | 89.9 | 2225 | [Bar chart showing ratio 2225] | | | |
| 191.fma3d | 2100 | 129 | 1624 | 124 | 1692 | [Bar chart showing ratio 1692] | | | |
| 200.sixtrack | 1100 | 135 | 813 | 113 | 977 | [Bar chart showing ratio 977] | | | |
| 301.apsi | 2600 | 143 | 1817 | 138 | 1880 | [Bar chart showing ratio 1880] | | | |

Hardware

CPU: AMD Opteron(tm) Processor 254
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 2 chips, 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 1024GB PC3200
 Disk Subsystem: SCSI, 36GB 15K RPM
 Other Hardware: None

Software

Operating System: SuSE Linux 9.0 SP2 SLES 64 bit Kernel 2.6.5-7.191-smp (SP2)
 Compiler: PathScale EKO Compiler Suite, Release 2.2.1
 AMD Core Math Library 2.5.1
 File System: Linux/reiserfs
 System State: Multi-user, run level 3

Notes/Tuning Information

Tested by IBM Corporation

+ACML: Linked with AMD Core Math Library

Base tuning for C programs: -Ofast -WOPT:mem_opnds=on +FDO

Base tuning for FORTRAN programs: -Ofast -LNO:fusion=2 -OPT:fast_complex +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 -m3dnw

172.mgrid: -Ofast -CG:gcm=off:cflow=on -OPT:IEEE_a=3:unroll_size=200

-LNO:fusion=2:fission=1:blocking=off:prefetch Ahead=2

-WOPT:memopnds=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:prefetch=3 +FDO

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Notes/Tuning Information (Continued)

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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 +ACML +FDO
179.art:       -O3 -OPT:ofast -fno-math-errno -mno-sse2 -m32
183.earthquake: -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.amp:       -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
               -fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas:     -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:memopnds=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=60000:early_intrinsics=on
               -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:      -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```

BIOS Configuration Notes
Node Interleaving is Disabled

Other Configuration Notes
Taskset utility used to bind process to CPU(s)