# CFP2000 Result

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## IBM Corporation

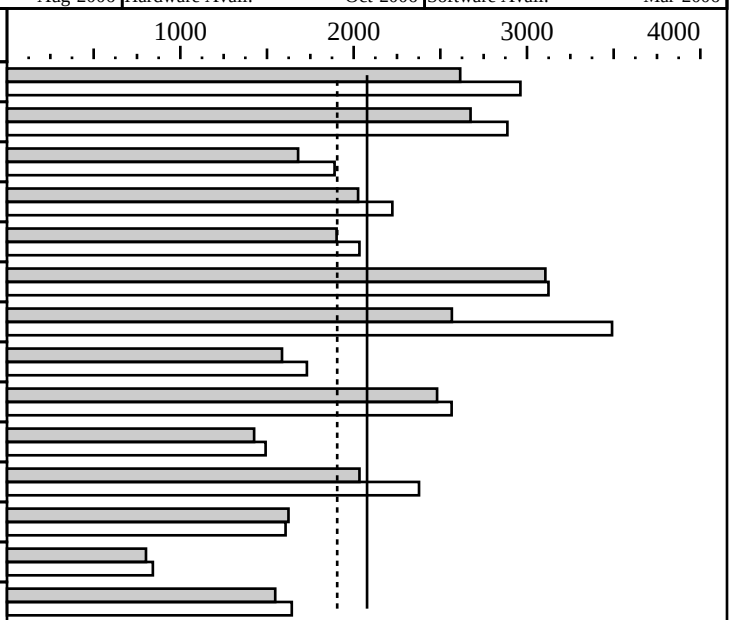
IBM System X 3655 (AMD Opteron (TM) 2216)

SPECfp2000 = 2077

SPECfp_base2000 = 1905

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Aug-2006 | Hardware Avail: Oct-2006 | Software Avail: Mar-2006

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 168.wupwise | 1600 | 61.2 | 2615 | 54.0 | 2962 |
| 171.swim | 3100 | 116 | 2674 | 107 | 2887 |
| 172.mgrid | 1800 | 107 | 1679 | 95.2 | 1890 |
| 173.applu | 2100 | 104 | 2026 | 94.5 | 2223 |
| 177.mesa | 1400 | 73.6 | 1901 | 68.9 | 2033 |
| 178.galgel | 2900 | 93.4 | 3106 | 92.8 | 3124 |
| 179.art | 2600 | 101 | 2567 | 74.5 | 3491 |
| 183.equake | 1300 | 81.9 | 1587 | 75.1 | 1730 |
| 187.facerec | 1900 | 76.6 | 2481 | 74.1 | 2565 |
| 188.ammp | 2200 | 154 | 1426 | 147 | 1492 |
| 189.lucas | 2000 | 98.4 | 2033 | 84.1 | 2377 |
| 191.fma3d | 2100 | 129 | 1624 | 131 | 1607 |
| 200.sixtrack | 1100 | 137 | 802 | 131 | 841 |
| 301.apsi | 2600 | 168 | 1547 | 158 | 1643 |




### Hardware

| | |
|---|---|
| CPU: | AMD Opteron 2216 |
| CPU MHz: | 2400 |
| 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) per core |
| Secondary Cache: | 1024KB (I+D) (on chip) per core |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 8x2GB, PC2-5300 |
| Disk Subsystem: | SAS, 73GB 15K RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SuSE Linux 9.0 SP3 SLES 64 bit Kernel 2.6.5-7.244-smp |
| Compiler: | PathScale EKO Compiler Suite, Release 2.4<br>PathScale EKOPath(TM) Compiler Suite, Release 2.4 |
| File System: | Linux/reiserfs |
| System State: | Multi-user, run level 3 |

## Notes/Tuning Information

```
  +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata

  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 -IPA:linear=on -LNO:prefetch_ahead=5:prefetch=3
                -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
  171.swim:     -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
  172.mgrid:    -Ofast -CG:gcm=off -OPT:IEEE_arith=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 +FDO
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 -IPA:plimit=1500 -LNO:fusion=2
              -OPT:IEEE_NaN_Inf=off:ro=3:unroll_size=0 +FDO
188.ammp:     -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
              -GRA:optimize_boundary=on -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:early_intrinsics=on
              -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:     -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2
```