# CFP2000 Result

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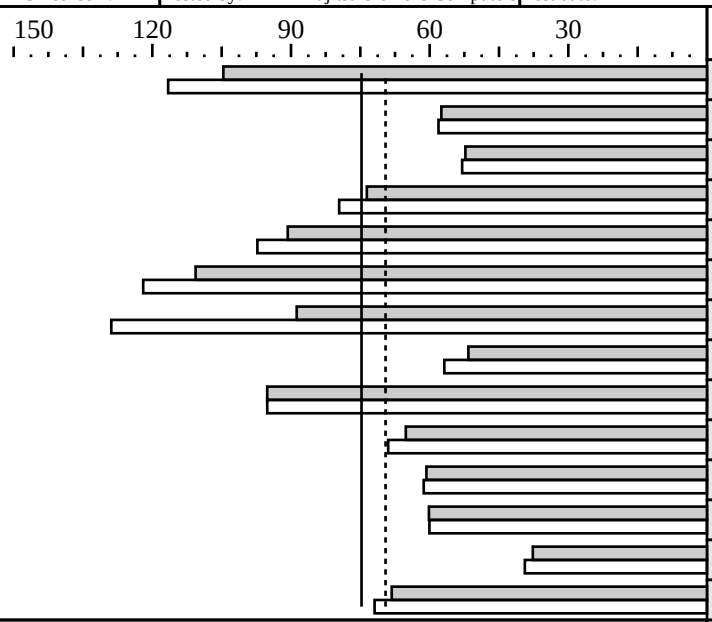
## Fujitsu Siemens Computers

CELSIUS V830, Opteron (TM) 280, Linux 64-bit

SPECfp_rate2000 = 74.7

SPECfp_rate_base2000 = 69.5

SPEC license #: 22 | Tested by: Fujitsu Siemens Computers | Test date: Jan-2006 | Hardware Avail: Sep-2005 | Software Avail: Dec-2005




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 4 | 70.9 | 105 | 4 | 63.7 | 117 |
| 171.swim | 4 | 250 | 57.5 | 4 | 248 | 58.1 |
| 172.mgrid | 4 | 160 | 52.3 | 4 | 158 | 53.0 |
| 173.applu | 4 | 132 | 73.6 | 4 | 122 | 79.6 |
| 177.mesa | 4 | 71.6 | 90.7 | 4 | 66.8 | 97.3 |
| 178.galgel | 4 | 122 | 111 | 4 | 110 | 122 |
| 179.art | 4 | 136 | 88.8 | 4 | 93.6 | 129 |
| 183.equake | 4 | 117 | 51.6 | 4 | 106 | 56.8 |
| 187.facerec | 4 | 92.7 | 95.1 | 4 | 92.7 | 95.1 |
| 188.ammp | 4 | 157 | 65.2 | 4 | 148 | 69.0 |
| 189.lucas | 4 | 153 | 60.7 | 4 | 151 | 61.3 |
| 191.fma3d | 4 | 162 | 60.2 | 4 | 162 | 60.1 |
| 200.sixtrack | 4 | 135 | 37.7 | 4 | 130 | 39.4 |
| 301.apsi | 4 | 177 | 68.2 | 4 | 168 | 71.9 |

### Hardware

| | |
|---|---|
| CPU: | AMD Opteron 280 |
| 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: | 8 x 512 MB PC3200 CL3-3-3 DDR SDRAM |
| Disk Subsystem: | SCSI U320 |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SLES 9 with SP3 (AMD64) - kernel 2.6.5-7.244-smp |
| Compiler: | PathScale EKOPath(TM) Compiler Suite, Release 2.3 (for C and Fortran)<br>AMD Core Mathematical Library (ACML), Version 3.0.0 |
| File System: | Linux/ReiserFS |
| System State: | Multi-User SuSE Run Level 3 |

## Notes/Tuning Information

```
Portability flags:
   178.galgel: -fixedform

Feedback Optimization:
 +FDO: PASS1=-fb_create fbdata   PASS2=-fb_opt fbdata

AMD Core Math Library
+ACML  means -L<acml-install-dir>/pathscale64/lib -lacml,
        which causes linking with AMD Core Math Library

Baseline Optimization Flags:
   C programs:       -Ofast -WOPT:mem_opnds=on +FDO
   Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO

Peak Tuning Flags:
 168.wupwise:  -Ofast -LNO:prefetch_ahead=5:prefetch=3
               -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
```

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## Notes/Tuning Information (Continued)

```
                -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:prefetch=3
                +FDO
  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 +ACML +FDO RM_SOURCES=lapak.f90
  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

BIOS default settings with
Node memory interleave disabled, SRAT enabled
taskset has been used to bind processes to CPUs

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http://www.fujitsu-siemens.com/countries
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