



CFP2000 Result

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Fujitsu Siemens Computers
CELSIUS V810, Opteron (TM) 250, Linux 64-bit

SPECfp_rate2000 = 42.2
SPECfp_rate_base2000 = 38.7

SPEC license #: 22 | Tested by: Fujitsu Siemens Computers | Test date: Nov-2004 | Hardware Avail: Aug-2004 | Software Avail: Oct-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	96.2	38.6	2	82.1	45.2
171.swim	2	121	59.3	2	121	59.3
172.mgrid	2	112	37.3	2	103	40.6
173.applu	2	135	36.1	2	112	43.6
177.mesa	2	76.9	42.2	2	71.2	45.6
178.galgel	2	106	63.6	2	95.9	70.1
179.art	2	122	49.5	2	82.3	73.3
183.quake	2	84.1	35.9	2	86.3	34.9
187.facerec	2	97.1	45.4	2	94.5	46.6
188.amp	2	157	32.5	2	153	33.3
189.lucas	2	111	41.8	2	105	44.2
191.fma3d	2	148	32.8	2	141	34.5
200.sixtrack	2	163	15.7	2	152	16.8
301.apsi	2	166	36.3	2	164	36.9

Hardware

CPU: AMD Opteron (TM) 250
 CPU MHz: 2400
 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: 4 x 512 MB PC3200 CL3-3-3 DDR SDRAM
 Disk Subsystem: S-ATA 7200 rpm
 Other Hardware: None

Software

Operating System: SuSE Linux 9.1 (AMD64) 2.6.4-52-smp
 Compiler: PathScale EKO Compiler Suite, Release 1.4
 - (both for C and Fortran)
 ACML (AMD Core Math Library) for AMD64, Version 2.1.0
 - available from AMD
 File System: Linux/Reiser
 System State: Multi-user SuSE Run level 3

Notes/Tuning Information

Tested by Fujitsu Siemens Computers

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
+ACML: -lacml -lg2c
      for linking with ACML.
      ACML is AMD Core Math Library, Version 2.1.0;
      g2c is the Fortran Compatibility Library, required by ACML;
      it comes with GNU Fortran compiler in SuSE's distribution.
```

Portability Flags:
 178.galgel: -fixedform

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

Peak tuning:



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Notes/Tuning Information (Continued)

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168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3
             -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
             -TENV:X=4
    loader:   -IPA:space=1000:linear=on:plimit=50000:callee_limit=5000
             -INLINE:aggressive=on
171.swim:    -Ofast -LNO:fusion=2
172.mgrid:   -O3 -LNO:fusion=2:blocking=off
             -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3
             -CG:gcm=off:cflow=off
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 -WOPT:val=2
177.mesa:    -O2 -ipa -OPT:Ofast -fno-math-errno
             -CG:local_fwd_sched=on +FDO
178.galgel:  -Ofast -OPT:fast_complex -CG:use_movlpd=on +ACML
179.art:     -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32
183.quake:   -Ofast -WOPT:mem_opnds=on -CG:local_fwd_sched=on
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3
             -CG:load_exe=0 -LNO:fusion=2 +FDO
    loader   -IPA:plimit=1800
188.ammp:    -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
             -fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas:   -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 +FDO
191.fma3d:   -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
             -WOPT:mem_opnds=on:retype_expr=on +FDO
    loader   -IPA:pu_reorder=1
200.sixtrack: -Ofast -CG:load_exe=1 +FDO
301.apsi:    -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0

```

BIOS Version 1.05

BIOS default settings have been used. These include

- Node Memory Interleave disabled
- ACPI SRAT Table enabled

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