



CFP2000 Result

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Fujitsu Siemens Computers
CELSIUS V830, Opteron (TM) 285, Linux 64-bit

SPECfp_rate2000 = 77.1
SPECfp_rate_base2000 = 72.1

SPEC license #: 22 | Tested by: Fujitsu Siemens Computers | Test date: Jul-2006 | Hardware Avail: Feb-2006 | Software Avail: Mar-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	67.3	110	4	61.5	121
171.swim	4	250	57.4	4	247	58.1
172.mgrid	4	158	52.9	4	156	53.4
173.applu	4	130	75.1	4	121	80.5
177.mesa	4	66.4	97.8	4	61.9	105
178.galgel	4	115	117	4	111	121
179.art	4	135	89.5	4	91.0	133
183.quake	4	116	52.0	4	105	57.7
187.facerec	4	89.5	98.5	4	89.9	98.0
188.amp	4	148	68.8	4	139	73.2
189.lucas	4	153	60.5	4	151	61.4
191.fma3d	4	154	63.1	4	154	63.3
200.sixtrack	4	125	40.7	4	120	42.6
301.apsi	4	166	72.6	4	161	75.0

Hardware

CPU: AMD Opteron 285
 CPU MHz: 2600
 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)
 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)

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-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
179.art: -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.quake: -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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