



CFP2000 Result

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

SPECfp2000 = **2096**
SPECfp_base2000 = **1902**

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
168.wupwise	1600	63.4	2526	53.9	2967	[Bar chart showing ratio 2967]			
171.swim	3100	125	2482	120	2582	[Bar chart showing ratio 2582]			
172.mgrid	1800	108	1674	96.8	1859	[Bar chart showing ratio 1859]			
173.applu	2100	105	1992	93.6	2244	[Bar chart showing ratio 2244]			
177.mesa	1400	70.9	1975	66.0	2122	[Bar chart showing ratio 2122]			
178.galgel	2900	93.2	3110	82.8	3504	[Bar chart showing ratio 3504]			
179.art	2600	103	2516	72.2	3599	[Bar chart showing ratio 3599]			
183.earth	1300	78.6	1654	72.1	1804	[Bar chart showing ratio 1804]			
187.facerec	1900	75.3	2523	76.3	2491	[Bar chart showing ratio 2491]			
188.amp	2200	152	1448	142	1550	[Bar chart showing ratio 1550]			
189.lucas	2000	97.9	2042	86.4	2316	[Bar chart showing ratio 2316]			
191.fma3d	2100	133	1577	132	1595	[Bar chart showing ratio 1595]			
200.sixtrack	1100	135	814	129	852	[Bar chart showing ratio 852]			
301.apsi	2600	164	1582	155	1681	[Bar chart showing ratio 1681]			

Hardware

CPU: AMD Opteron 280
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 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: 4 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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SPECfp2000 = 2096
SPECfp_base2000 = 1902

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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 RM_SOURCES=lapak.f90
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.ammpp: -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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