



# CFP2000 Result

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**Fujitsu Siemens Computers**  
CELSIUS V830, Opteron (TM) 256, Linux 64-bit

SPECfp2000 = **2388**  
SPECfp\_base2000 = **2182**

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	53.1	3012	49.2	3254	
171.swim	3100	120	2580	116	2666	
172.mgrid	1800	94.1	1913	87.4	2060	
173.applu	2100	92.5	2270	80.9	2594	
177.mesa	1400	57.5	2434	53.3	2628	
178.galgel	2900	81.5	3558	72.7	3987	
179.art	2600	92.8	2802	63.9	4072	
183.quake	1300	72.7	1789	65.9	1973	
187.facerec	1900	66.4	2861	67.3	2825	
188.amp	2200	127	1739	118	1862	
189.lucas	2000	92.4	2164	82.3	2431	
191.fma3d	2100	114	1849	113	1858	
200.sixtrack	1100	109	1011	104	1060	
301.apsi	2600	138	1881	130	1993	

### Hardware

CPU: AMD Opteron 256  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 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: 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

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