



CFP2000 Result

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Fujitsu Siemens Computers
CELSIUS V810, Opteron (TM) 252, Linux 64-bit

SPECfp2000 = **2045**
SPECfp_base2000 = **1867**

SPEC license #: 22 Tested by: Fujitsu Siemens Computers Test date: Feb-2005 Hardware Avail: Mar-2005 Software Avail: Jan-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
168.wupwise	1600	65.7	2435	54.7	2927	[Bar chart showing ratio 2927]			
171.swim	3100	122	2536	120	2588	[Bar chart showing ratio 2588]			
172.mgrid	1800	106	1705	93.9	1918	[Bar chart showing ratio 1918]			
173.applu	2100	122	1720	104	2025	[Bar chart showing ratio 2025]			
177.mesa	1400	70.9	1973	66.0	2123	[Bar chart showing ratio 2123]			
178.galgel	2900	98.0	2959	90.8	3192	[Bar chart showing ratio 3192]			
179.art	2600	111	2344	72.8	3574	[Bar chart showing ratio 3574]			
183.earth	1300	77.7	1672	73.6	1767	[Bar chart showing ratio 1767]			
187.facerec	1900	86.4	2198	85.0	2235	[Bar chart showing ratio 2235]			
188.amp	2200	150	1469	139	1584	[Bar chart showing ratio 1584]			
189.lucas	2000	93.9	2130	93.8	2132	[Bar chart showing ratio 2132]			
191.fma3d	2100	131	1605	130	1618	[Bar chart showing ratio 1618]			
200.sixtrack	1100	132	835	129	850	[Bar chart showing ratio 850]			
301.apsi	2600	159	1639	151	1718	[Bar chart showing ratio 1718]			

Hardware

CPU: AMD Opteron (TM) 252
CPU MHz: 2600
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: S-ATA 7200 rpm
Other Hardware: None

Software

Operating System: SuSE Linux 9.1 (AMD64) 2.6.4-52-smp
Compiler: PathScale EKOPath (TM) Compiler Suite, Release 2.0
- (both for C and Fortran)
ACML (AMD Core Math Library) for AMD64, Version 2.1
- available from AMD
File System: Linux/ReiserFS
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 AMD Core Math Library, Version 2.1.0
(ACML requires g2c, the Fortran Compatibility Library;
g2c 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 +FDO

Peak tuning:
168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3



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SPECfp2000 = 2045
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Notes/Tuning Information (Continued)

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-OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
-TENV:X=4
-IPA:space=1000:linear=on:plimit=50000:callee_limit=5000
-INLINE:aggressive=on
171.swim: -Ofast -LNO:fusion=2 -m3dnow
172.mgrid: -O3 -LNO:fusion=2:blocking=off
-OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3
-CG:gcm=off:cflow=off -m3dnow
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 +FDO +ACML
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32
183.earthquake: -Ofast -WOPT:mem_opnds=on -m32
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3
-CG:load_exe=0 -LNO:fusion=2 -IPA:plimit=1500 +FDO
188.ammamp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
-fno-math-errno -TENV:X=4 +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 -IPA:pu_reorder=1 +FDO
200.sixtrack: -O3 -OPT:Ofast:Olimit=6000 -fno-math-errno
-CG:load_exe=1 +FDO
301.apsi: -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0

```

System tested with only 1 CPU present.

BIOS Version 1.06, default settings.

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