



CFP2000 Result

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

SPECfp_rate2000 = 38.8
SPECfp_rate_base2000 = 37.7

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	92.2	40.3	2	71.1	52.2
171.swim	2	130	55.1	2	130	55.1
172.mgrid	2	122	34.2	2	120	34.9
173.applu	2	147	33.1	2	150	32.5
177.mesa	2	79.6	40.8	2	78.5	41.4
178.galgel	2	98.2	68.5	2	88.9	75.6
179.art	2	179	33.7	2	177	34.1
183.quake	2	91.5	33.0	2	90.8	33.2
187.facerec	2	81.1	54.4	2	81.1	54.4
188.amp	2	157	32.5	2	157	32.4
189.lucas	2	121	38.2	2	122	37.9
191.fma3d	2	134	36.4	2	134	36.4
200.sixtrack	2	150	17.1	2	150	17.1
301.apsi	2	168	35.9	2	168	35.9

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: 8 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-default
 Compiler: For C and C++ : GNU gcc Compiler
 - taken from SuSE's Linux distribution
 For Fortran: PGI Fortran 5.2-1
 ACML (AMD Core Math Library) for AMD64
 - distributed with PGI compiler
 File System: Linux/Reiser
 System State: Multi-user SuSE Run level 3

Notes/Tuning Information

Tested by Fujitsu Siemens Computers

+FDO: PASS1=-fprofile-arcs PASS2=-fbranch-probabilities

+ACML is linking with AMD Core Math Library

pgf90 is the PGI Fortran compiler

gcc is the GNU compiler, taken from SuSE's Linux distribution

Portability:

PORTABILITY=-DSPEC_CPU2000_LP64 is applied to all the C benchmarks.

178.galgel: -Mfixed

Baseline: C gcc -O3 -funroll-all-loops +FDO

Baseline: Fortran pgf90 -fastsse -Mipa=fast

Peak tuning:

168.wupwise: pgf90 -fastsse -Mipa=fast -Minline=levels:2

171.swim: basepeak=true

172.mgrid: pgf90 -fast -Mipa=fast

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Notes/Tuning Information (Continued)

```
173.applu:    pgf90 -fast -Mipa=fast
177.mesa:    gcc -O3 -funroll-all-loops -finline-limit=2000 +FDO
178.galgel:  pgf90 -fastsse -O3 -mp RM_SOURCES=lapak.f90 +ACML
179.art:     gcc -O3 -funroll-all-loops -ffast-math -finline-limit=1500 +FDO
183.quake:  gcc -O3 -funroll-all-loops -ffast-math -finline-limit=2000
187.facerec: basepeak=true
188.ammp:    gcc -O3 -funroll-all-loops -ffast-math -finline-limit=2000 +FDO
189.lucas:  pgf90 -fastsse -Mipa=fast -Mnosmart
191.fma3d:  basepeak=true
200.sixtrack: basepeak=true
301.apsi:   basepeak=true
```

ONESTEP is used for all base and peak runs
BIOS default settings have been used. These include:
ECC memory checking disabled,
node interleave disabled, SRAT enabled.

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