



# CFP2000 Result

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Fujitsu Siemens Computers  
PRIMERGY BX630, AMD Opteron (TM) 254

SPECfp\_rate2000 = 51.7  
SPECfp\_rate\_base2000 = 47.4

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	54.4	68.2	2	51.8	71.6
171.swim	2	119	60.4	2	115	62.7
172.mgrid	2	99.5	42.0	2	91.5	45.7
173.applu	2	100.0	48.7	2	86.3	56.4
177.mesa	2	62.9	51.6	2	59.2	54.9
178.galgel	2	85.7	78.5	2	78.2	86.0
179.art	2	98.8	61.1	2	72.7	82.9
183.quake	2	80.2	37.6	2	72.2	41.8
187.facerec	2	74.8	59.0	2	71.9	61.3
188.amp	2	135	37.8	2	128	40.0
189.lucas	2	96.6	48.0	2	85.3	54.4
191.fma3d	2	123	39.5	2	124	39.3
200.sixtrack	2	119	21.5	2	113	22.6
301.apsi	2	147	40.9	2	138	43.8

### Hardware

CPU: AMD Opteron (TM) 254 processor (2.80 GHz)  
CPU MHz: 2800  
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, per core  
Secondary Cache: 1024KB (I+D) on chip, per core  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 8x2048MB DDR-RAM PC3200R CL3-3-3  
Disk Subsystem: Western Digital WD2500 (SATA, 7.2krpm)  
Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 9 (x86\_64) SP 2  
SuSE Kernel 2.6.5-7.191-smp  
Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.2.1 (for C and Fortran)  
AMD Core Mathematical Library (ACML), Version 2.6.0  
File System: Linux/reiserfs  
System State: Multi-user run level 3

## Notes/Tuning Information

### GENERAL

+FDO: PASS1= -fb\_create fbdata PASS2= -fb\_opt fbdata  
+ACML: Linked with AMD Core Math Library

### Portability flags

178.galgel: -fixedform

### Base tuning flags

for Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast\_complex=on +FDO  
for C programs: -Ofast -WOPT:mem\_opnds=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  
-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



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## Notes/Tuning Information (Continued)

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-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 +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.equake: -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

```

MYMASK=`printf '0x%x' \\${(1<<\\$SPECUSERNUM)}`; /usr/bin/taskset \\$MYMASK \$command:  
Taskset utility used to bind process to CPU(s)

BIOS settings: Memory timing=1T  
DRAM Bank Interleave=AUTO

This result was measured with 64-bit binaries using the 64-bit version of the operating system.

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