



CFP2000 Result

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Sun Microsystems
Sun Fire V40z

SPECfp_rate2000 = 23.4

SPECfp_rate_base2000 = 21.3

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2005 Hardware Avail: Apr-2005 Software Avail: Jan-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	66.2	28.0	1	57.1	32.5
171.swim	1	123	29.3	1	119	30.2
172.mgrid	1	108	19.3	1	96.7	21.6
173.applu	1	122	19.9	1	105	23.3
177.mesa	1	71.5	22.7	1	65.6	24.8
178.galgel	1	98.7	34.1	1	88.8	37.9
179.art	1	113	26.6	1	74.4	40.5
183.quake	1	80.2	18.8	1	74.6	20.2
187.facerec	1	88.5	24.9	1	85.3	25.8
188.amp	1	151	16.9	1	140	18.2
189.lucas	1	98.1	23.6	1	98.0	23.7
191.fma3d	1	131	18.5	1	131	18.6
200.sixtrack	1	133	9.58	1	131	9.75
301.apsi	1	160	18.9	1	154	19.6

Hardware

CPU: AMD Opteron (TM) 852
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip
 CPU(s) orderable: 1,2,4
 Parallel: No
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB (I+D) on chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4GB (4x1GB, PC3200 CL3 DDR)
 Disk Subsystem: SCSI, 73GB, 10K RPM
 Other Hardware: None

Software

Operating System: SUSE LINUX Enterprise Server 9
 Compiler: PathScale EKOPath Compiler Suite, Release 2.0
 AMD Core Math Library V2.5.1
 File System: Linux/ext3
 System State: Multi-user, Run level 3

Notes/Tuning Information

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
+ACML -L/opt/acml2.5.1/pathscale64/lib -lacml,
      means linking with AMD Core Math Library V2.5.1
```

Baseline optimization

```
C programs: -Ofast -WOPT:mem_opnds=on +FDO
Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex +FDO
```

Portability Flags:

```
178.galgel: -fixedform
```

Peak Tuning:

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



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Notes/Tuning Information (Continued)

```

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
              RM_SOURCES=lapak.f90
179.art      : -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32
183.quake    : -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.ammp     : -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

```

Default BIOS setting was used. Only one CPU was present in the system.