CFP2000 Result

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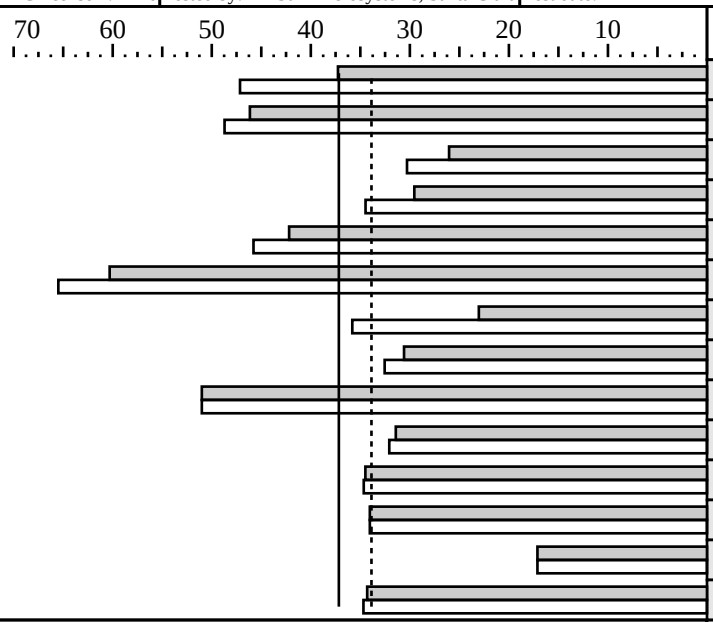
Sun Microsystems
Sun Fire V40z

SPECfp_rate2000 = 37.2

SPECfp_rate_base2000 = 33.9

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Jul-2004 | Hardware Avail: Jul-2004 | Software Avail: Jul-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	99.6	37.3	2	78.7	47.1
171.swim	2	156	46.2	2	148	48.7
172.mgrid	2	160	26.0	2	138	30.3
173.applu	2	165	29.5	2	141	34.5
177.mesa	2	77.0	42.2	2	70.9	45.8
178.galgel	2	112	60.3	2	103	65.5
179.art	2	262	23.0	2	168	35.8
183.equake	2	98.6	30.6	2	92.7	32.5
187.facerec	2	86.4	51.0	2	86.4	51.0
188.ammp	2	162	31.4	2	159	32.1
189.lucas	2	135	34.5	2	134	34.7
191.fma3d	2	143	34.0	2	143	34.0
200.sixtrack	2	149	17.1	2	149	17.1
301.apsi	2	176	34.3	2	174	34.7

Hardware

CPU:	AMD Opteron (TM) 850
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 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:	8x1GB, PC2700 CL2.5 DDR SDRAM ECC Registered
Disk Subsystem:	SCSI, 73GB, 10K RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux 8.0 SLES 64 bit (SP3)
Compiler:	PathScale EKO Compiler Suite, Release 1.1 SuSE optional gcc 3.3 (from SLES8 SP3) PGI Fortran 5.2 (build 5.2-0E) AMD Core Math Library (Version 2.0) for AMD64
File System:	Linux/ext3
System State:	Multi-user, Run level 3

Notes/Tuning Information

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A two-pass compilation method is used where indicated:
  +PSFDO indicates PathScale feedback
           PASS1: -fb_create fbdata
           PASS2: -fb_opt    fbdata
  +ACML is the AMD Core Math Library V2.0

Compilers:
   C:       pathcc  (PathScale C) unless otherwise noted
   Fortran: pathf90 (PathScale f90) unless otherwise noted
If other compilers are used, they are indicated as:
   gcc:   Gnu C
   pgf90: PGI Fortran

Floating Point base tuning:
 Fortran: pgf90 -fastsse  -Mipa=fast -Msmart
 C:       pathcc -Ofast -WOPT:mem_opnds=on +PSFDO
```

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Notes/Tuning Information (Continued)

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Floating Point peak tuning:
168.wupwise:  pgf90 -fastsse -Mipa=fast,inline -Msmart
171.swim:     -Ofast -OPT:ro=3 -LNO:fusion=2:prefetch=2
172.mgrid:    -O3 -OPT:Ofast
              -LNO:fusion=2:blocking=off:ou_max=5:sclrze=off:prefetch=2
              -OPT:unroll_times=8:unroll_size=256:ro=3
              -CG:gcm=off:cflow=off
173.applu:    -O3 -ipa
              -LNO:fusion=2:interchange=OFF:blocking=OFF:ou_prod_max=10
              :ou_max=5:prefetch=2 -OPT:IEEE_arith=1:ro=3:unroll_size=0
             -TENV:X=4 -WOPT:mem_opnds=on:retype_expr=on:val=0 -CG:local_fwd_sched=on
177.mesa:     -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +PSFDO
178.galgel:   pgf90 -fastsse -Mipa=fast -mp +ACML
              RM_SOURCES=lapak.f90 ONESTEP
179.art:      -O3 -OPT:Ofast -fno-math-errno -m32 +PSFDO
183.equake:   gcc -DSPEC_CPU2000_LP64 -O3 -funroll-all-loops -ffast-math
              -finline-limit=2000 ONESTEP
187.facerec:  basepeak=true
188.ammp:     -O3 -OPT:alias=disjoint:unroll_times=8:Ofast:ro=3
              -fno-math-errno -TENV:X=4 +PSFDO
189.lucas:  pgf90 -fastsse -Mipa=fast,inline -Msmart
191.fma3d:  basepeak=true
200.sixtrack: basepeak=true
301.apsi:     -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0:blocking=off
              -IPA:linear=on:plimit=525

Portability:
178.galgel:     -Mfixed

Notes:
     BIOS build 2.1.0.9E, default setting was used.
     Only two CPUs were present in the system, other CPUs were physically removed.
```