



CFP2000 Result

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Sun Microsystems
Sun Fire V20z

SPECfp2000 = 1693
SPECfp_base2000 = 1555

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	96.3	1662	76.1	2104	
171.swim	3100	154	2007	146	2117	
172.mgrid	1800	129	1390	110	1631	
173.applu	2100	159	1323	139	1516	
177.mesa	1400	76.6	1829	70.7	1980	
178.galgel	2900	108	2673	99.0	2930	
179.art	2600	166	1566	117	2222	
183.quake	1300	96.3	1350	91.0	1429	
187.facerec	1900	85.0	2235	85.0	2235	
188.amp	2200	160	1373	157	1398	
189.lucas	2000	132	1512	132	1512	
191.fma3d	2100	141	1488	141	1488	
200.sixtrack	1100	148	741	148	741	
301.apsi	2600	175	1484	173	1505	

Hardware

CPU: AMD Opteron (TM) 250
CPU MHz: 2400
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: 4x1GB, 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

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)

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.earthquake: 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.
Second CPU was physically removed from the system.