CFP2000 Result

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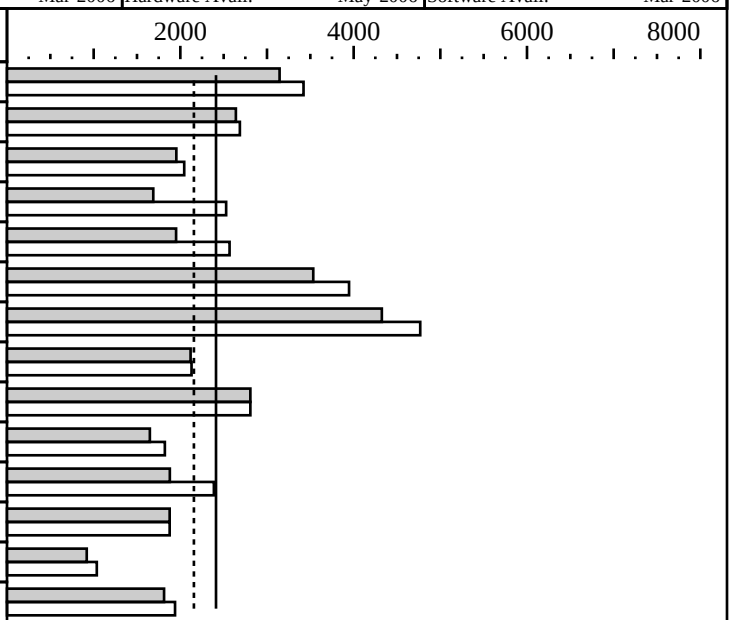
Sun Microsystems
Sun Fire X4200

SPECfp2000 = 2412

SPECfp_base2000 = 2157

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Mar-2006 | Hardware Avail: May-2006 | Software Avail: Mar-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	50.9	3145	46.8	3422
171.swim	3100	117	2641	115	2687
172.mgrid	1800	92.1	1954	88.0	2045
173.applu	2100	124	1688	83.0	2529
177.mesa	1400	71.8	1951	54.5	2568
178.galgel	2900	82.1	3534	73.5	3947
179.art	2600	60.1	4325	54.5	4768
183.equake	1300	61.4	2118	61.1	2129
187.facerec	1900	67.7	2808	67.7	2808
188.ammp	2200	133	1648	121	1821
189.lucas	2000	106	1879	83.8	2387
191.fma3d	2100	112	1877	112	1877
200.sixtrack	1100	120	920	106	1036
301.apsi	2600	143	1812	134	1939



Hardware

CPU:	AMD Opteron (TM) 256
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip
CPU(s) orderable:	1,2 (order by # of chips)
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:	8GB (4x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
Disk Subsystem:	SAS,36GB,10K RPM
Other Hardware:	None

Software

Operating System:	SUSE LINUX Enterprise Server 9 SP3 (x86_64)
Compiler:	PathScale EKOPath(TM) Compiler Suite, Version 2.3 PGI Compiler for Linux, Release 6.1-3 AMD Core Mathematical Library (ACML), Version 3.0.0
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

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Portability flags:
   178.galgel (base using pgf90)   : -Mfixed
   178.galgel (peak using pathf95) : -fixedform

Feedback Optimization +FDO:
   PGI     : PASS1=-Mpfi               PASS2=-Mpfo
   PathSale: PASS1=-fb_create fbdata   PASS2=-fb_opt fbdata

+ACML  means -Lacml-install-dir/pathscale64/lib -lacml,
        which links with AMD Core Math Library

Baseline Optimization Flags:
   C programs      : pgcc  -fastsse -Mipa=fast,inline +FDO
   Fortran programs: pgf90 -fastsse -Mipa=fast,inline +FDO

Peak Tuning Flags:
 168.wupwise:  pathf95 -Ofast -LNO:prefetch_ahead=5:prefetch=3
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Notes/Tuning Information (Continued)

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                -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
                -IPA:linear=on:plimit=50000:callee_limit=5000
                -CG:local_fwd_sched=on -m3dnow
 171.swim:      pathf95 -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
 172.mgrid:     pathf95 -Ofast -CG:gcm=off -OPT:IEEE_a=3:unroll_size=200
                -LNO:fusion=2:fission=1:blocking=off:prefetch_ahead=2
                -WOPT:mem_opnds=on:aggstr=0
 173.applu:     pathf95 -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
                -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
                +FDO
 177.mesa:      pathf95 -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
                -WOPT:mem_opnds=on +FDO
 178.galgel:    pathf95 -Ofast -OPT:fast_complex=on +ACML +FDO
                 RM_SOURCES=lapak.f90
 179.art:       pgcc -fastsse -Munroll=n:9 -Mipa=fast,inline -tp k8-32
 183.equake:    pgcc -fastsse -Mflushz -Mnovect -Mipa=fast,inline ONESTEP=yes +FDO
 187.facerec:   pgf90  basepeak=1
 188.ammp:      pathcc -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
                -fno-math-errno -TENV:X=4 +FDO
 189.lucas:     pathf95 -O3 -OPT:ro=3:fast_nint=off:unroll_size=256
                -WOPT:mem_opnds=on +FDO
 191.fma3d:     pgf90  basepeak=1
 200.sixtrack:  pathf95 -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on
                -fno-math-errno -CG:load_exe=1 +FDO
 301.apsi:      pathf95 -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

Default BIOS settings was used.
System was tested in 1-chip configuration.

This result was measured on the Sun Fire X4200.  In addition,
Sun has submitted the same result for the Sun Fire X4100, which is
electronically equivalent to the Sun Fire X4200.
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