CFP2000 Result

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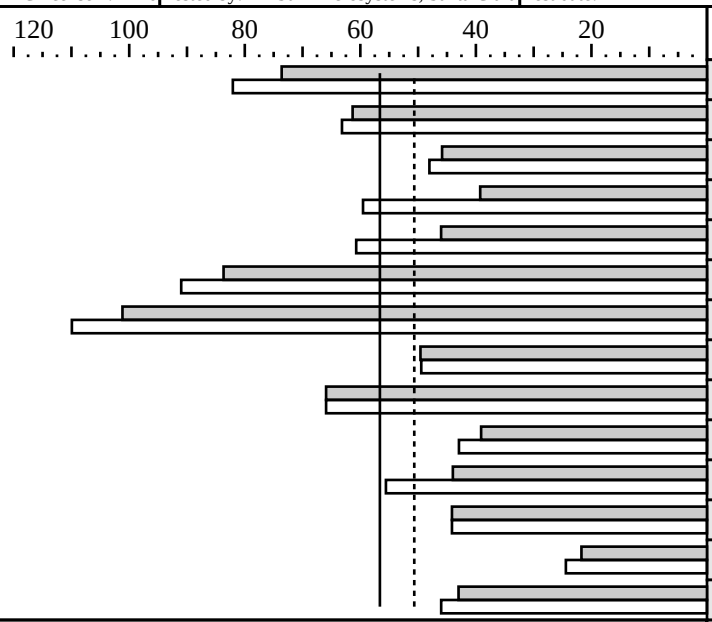
Sun Microsystems
Sun Ultra 40

SPECfp_rate2000 = 56.6

SPECfp_rate_base2000 = 50.7

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	50.4	73.6	2	45.2	82.1
171.swim	2	117	61.3	2	114	63.2
172.mgrid	2	91.1	45.9	2	86.9	48.0
173.applu	2	124	39.3	2	81.8	59.5
177.mesa	2	70.6	46.0	2	53.5	60.7
178.galgel	2	80.4	83.7	2	73.9	91.0
179.art	2	59.6	101	2	54.9	110
183.equake	2	60.8	49.6	2	61.0	49.5
187.facerec	2	66.9	65.9	2	66.9	65.9
188.ammp	2	131	39.1	2	119	42.9
189.lucas	2	105	44.0	2	83.5	55.6
191.fma3d	2	110	44.1	2	110	44.1
200.sixtrack	2	117	21.7	2	104	24.4
301.apsi	2	140	43.0	2	131	46.0

Hardware

CPU:	AMD Opteron (TM) 256
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1,2 (order by number 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:	16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
Disk Subsystem:	SATA,250GB,7200 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

```
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)

```
                -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

taskset has been used to bind processes to CPUs
Default BIOS settings was used.
```