CFP2000 Result

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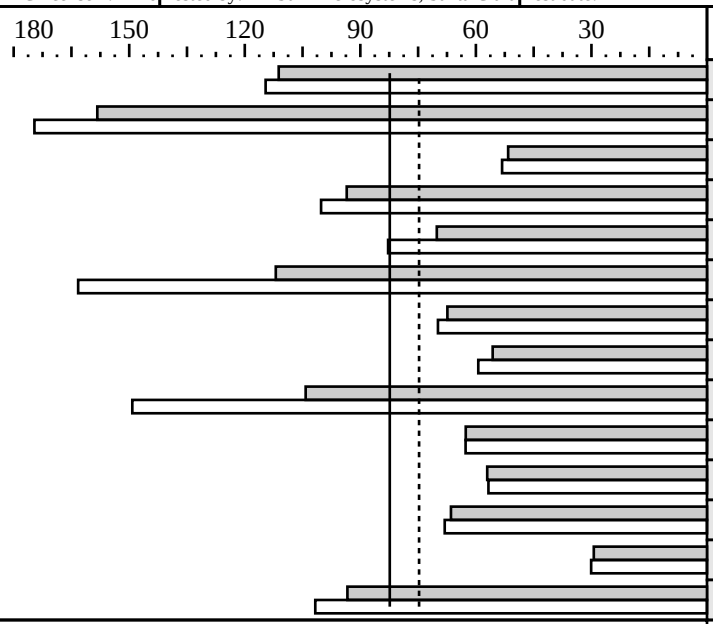
Sun Microsystems
Sun Fire X4100

SPECfp_rate2000 = 82.4

SPECfp_rate_base2000 = 74.7

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Nov-2005 | Hardware Avail: Dec-2005 | Software Avail: Nov-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	66.8	111	4	64.8	115
171.swim	4	90.9	158	4	82.4	175
172.mgrid	4	162	51.6	4	157	53.2
173.applu	4	104	93.5	4	97.3	100
177.mesa	4	92.6	70.1	4	78.5	82.8
178.galgel	4	120	112	4	82.4	163
179.art	4	179	67.4	4	173	69.8
183.equake	4	108	55.6	4	102	59.4
187.facerec	4	84.6	104	4	59.1	149
188.ammp	4	163	62.6	4	163	62.7
189.lucas	4	163	57.1	4	164	56.7
191.fma3d	4	147	66.5	4	143	68.1
200.sixtrack	4	174	29.4	4	170	30.1
301.apsi	4	129	93.4	4	119	102

Hardware

CPU:	AMD Opteron (TM) 285 SE
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/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:	16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
Disk Subsystem:	SAS, 36GB, 10K RPM
Other Hardware:	None

Software

Operating System:	Solaris 10 3/05 HW1
Compiler:	Sun Studio 11
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

```
Compiler invocation:
  C: cc
  F90: f90
  F77: f90

FDO:  PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback
      fdo_pre0:  rm -rf ./feedback.profile


Floating point base flags:
  F90:   -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 ONESTEP=yes
    C:   -fast -xcrossfile -xalias_level=std -xpagesize=2m ONESTEP=yes

Floating point peak flags:
 ONESTEP=yes for all benchmarks

 168.wupwise:   -fast -xpad=common:3969 -xipo=2 -xarch=amd64 -xprefetch_level=3  -xpagesize_heap=2m
```

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Notes/Tuning Information (Continued)

```
171.swim:      -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt
                 -Atile:skewp,-Ainline:cs=700 -xarch=amd64 -Qoption ube_ipa -inl_alt
                 -xpagesize_stack=2m
172.mgrid:     -fast -unroll=5 -stackvar -xpad=common:900 -xipo=2 -xarch=amd64 -xprefetch_level=3
                 -xvector -xpagesize=2m -Qoption ld -M,/usr/lib/ld/map.bssalign
173.applu:      -fast -unroll=5 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a
                 -qoption iropt -Rloop_dist -xpagesize_heap=2m
177.mesa:      -fast -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
178.galgel:    -fast -xcrossfile -xpagesize_heap=2m -xprefetch_level=3 -xvector=simd -xarch=amd64
                    RM_SOURCES=lapak.f90
                    EXTRALIBS=-xlic_lib=sunperf
179.art:       -fast  -xipo=2 -xprefetch  -xalias_level=strong -xpagesize=2m
183.equake:    -fast -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m -lmopt -lm +FDO
187.facerec:   -fast -xcache=64/64/2:512/64/16 -xO4 -xipo=2 -xprefetch_level=3 -xpagesize=2m
                 RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90
                 EXTRALIBS=-xlic_lib=sunperf
188.ammp:      -fast -xO4 -xipo=2 -xarch=amd64 -xalias_level=std -xpagesize_heap=2m -lmopt -lm
189.lucas:      -fast -Qoption ube_ipa -inl_alt -xipo=2 -xarch=amd64 -xprefetch_level=3
191.fma3d:      -fast -unroll=5 -fsimple=1 -xipo=2 -xprefetch_level=3 -xarch=amd64
                -xpagesize_heap=2m +FDO
200.sixtrack:  -fast -xipo=2 -O -xprefetch_level=3 -xarch=amd64
                -xpagesize_heap=2m -Qoption ld -M,/usr/lib/ld/map.bssalign +FDO
301.apsi:      -fast -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a -xpagesize=2m

Portability:
 178.galgel:  -e -fixed -DSPEC_CPU2000_LP64

Shell Environments:
  Stack size set to unlimited via "ulimit -s unlimited"

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used

This result was measured on Sun Fire X4200;
Sun Fire X4100 and Sun Fire X4200 are electronically equivalent.
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