CFP2000 Result

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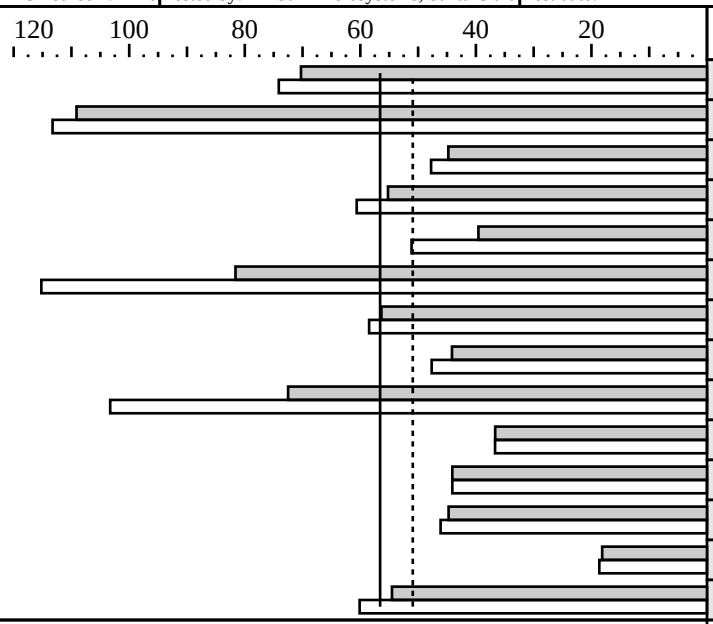
Sun Microsystems
Sun Fire X4100

SPECfp_rate2000 = 56.6

SPECfp_rate_base2000 = 50.9

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	52.8	70.3	2	50.1	74.1
171.swim	2	65.9	109	2	63.5	113
172.mgrid	2	93.3	44.8	2	87.4	47.8
173.applu	2	88.2	55.2	2	80.4	60.6
177.mesa	2	82.1	39.6	2	63.5	51.1
178.galgel	2	82.4	81.6	2	58.4	115
179.art	2	107	56.4	2	103	58.5
183.equake	2	68.3	44.1	2	63.3	47.7
187.facerec	2	60.8	72.5	2	42.7	103
188.ammp	2	139	36.7	2	139	36.7
189.lucas	2	105	44.1	2	105	44.1
191.fma3d	2	109	44.7	2	106	46.1
200.sixtrack	2	141	18.1	2	137	18.6
301.apsi	2	111	54.5	2	100	60.1

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 # 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 1/06
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 -xautopar -xpad=common:3969 -xipo=2 -xarch=amd64 -xprefetch_level=3  -xpagesize_heap=2m
 171.swim:      -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt
```

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Notes/Tuning Information (Continued)

```
                  -Atile:skewp,-Ainline:cs=700 -xarch=amd64 -Qoption ube_ipa -inl_alt
                  -xpagesize_stack=2m
 172.mgrid:     -fast -xautopar -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 -xautopar -unroll=5 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a
                  -qoption iropt -Rloop_dist -xpagesize_heap=2m
 177.mesa:      -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
 178.galgel:   -fast -xcache=64/32/4:1024/64/4 -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 -xO4 -xipo=2 -xprefetch_level=3 -xpagesize=2m
                  RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90
                  EXTRALIBS=-xlic_lib=sunperf
 188.ammp:      -fast -xcache=64/32/4:1024/64/4 -xO4 -xipo=2 -xarch=amd64a -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 -xcache=64/32/4:1024/64/4 -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:  -fixed

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

Kernel Parameters (/etc/system):
  autoup=900
  tune_t_fsflushr=1

Processes were bound to CPUs using submit=pbind
Default BIOS setting was used

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