CFP2000 Result

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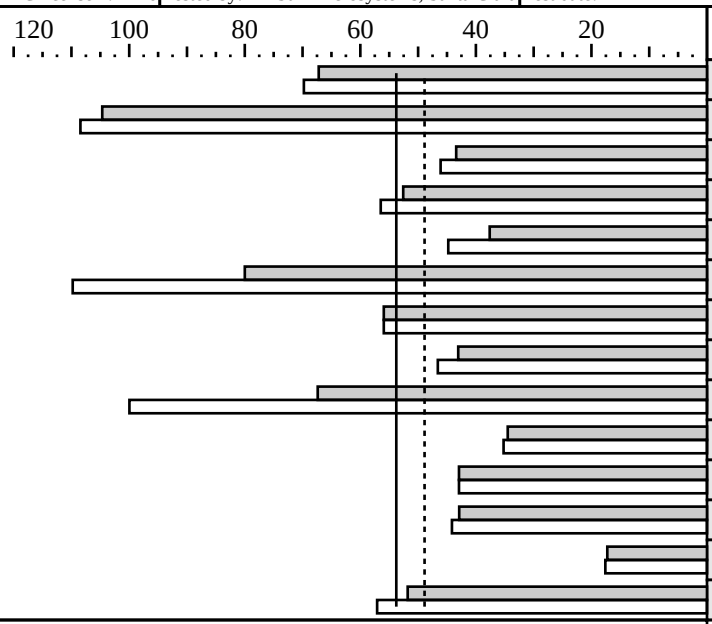
Sun Microsystems
Sun Fire X4100

SPECfp_rate2000 = 53.8

SPECfp_rate_base2000 = 48.9

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	55.2	67.2	2	53.2	69.8
171.swim	2	68.7	105	2	66.3	108
172.mgrid	2	96.2	43.4	2	90.6	46.1
173.applu	2	92.7	52.6	2	86.3	56.5
177.mesa	2	86.4	37.6	2	72.5	44.8
178.galgel	2	84.1	80.0	2	61.3	110
179.art	2	108	55.9	2	108	55.9
183.equake	2	70.0	43.1	2	64.7	46.6
187.facerec	2	65.4	67.4	2	44.1	100.0
188.ammp	2	148	34.5	2	145	35.2
189.lucas	2	108	42.9	2	108	42.9
191.fma3d	2	114	42.9	2	110	44.1
200.sixtrack	2	148	17.3	2	145	17.6
301.apsi	2	116	51.8	2	106	57.1

Hardware

CPU:	AMD Opteron (TM) 254
CPU MHz:	2800
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 SDRAM ECC Registered)
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 -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 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64
                  -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 -xipo=2 -xpagesize_heap=2m -xprefetch_level=3 -xvector=simd -xarch=amd64
                  RM_SOURCES=lapak.f90
                  EXTRALIBS=-xlic_lib=sunperf
 179.art:         basepeak=yes
 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 -xO4 -xipo=2 -xarch=amd64 -xalias_level=std -xpagesize_heap=2m -lmopt -lm
 189.lucas:       basepeak=yes
 191.fma3d:      -fast -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=amd64 -xpagesize=2m

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

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
```