CFP2000 Result

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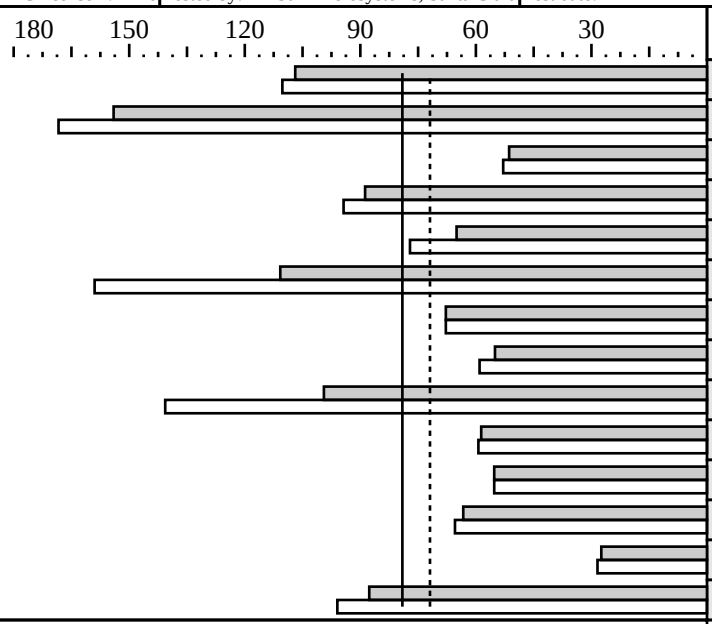
Sun Microsystems
Sun Fire X4200

SPECfp_rate2000 = 79.1

SPECfp_rate_base2000 = 71.9

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	4	69.4	107	4	67.3	110
171.swim	4	93.4	154	4	85.4	168
172.mgrid	4	163	51.4	4	158	52.9
173.applu	4	110	88.8	4	103	94.3
177.mesa	4	99.9	65.0	4	84.2	77.1
178.galgel	4	121	111	4	84.6	159
179.art	4	178	67.8	4	178	67.8
183.equake	4	110	55.0	4	102	59.0
187.facerec	4	88.6	99.5	4	62.7	141
188.ammp	4	174	58.6	4	172	59.3
189.lucas	4	168	55.2	4	168	55.2
191.fma3d	4	154	63.3	4	149	65.4
200.sixtrack	4	186	27.4	4	180	28.4
301.apsi	4	138	87.7	4	126	96.0

Hardware

CPU:	AMD Opteron (TM) 280
CPU MHz:	2400
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 SDRAM ECC Registered)
Disk Subsystem:	SAS, 72GB, 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

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