CFP2000 Result

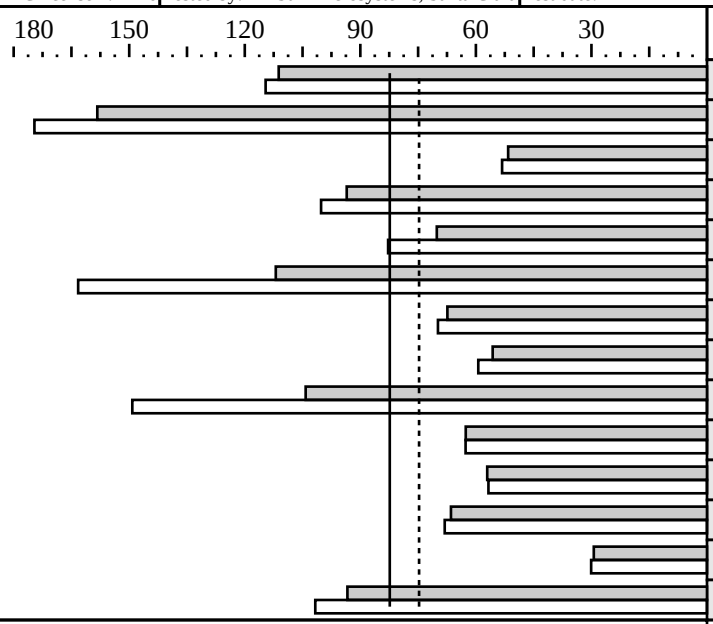
Copyright ©1999-2005, Standard Performance Evaluation Corporation

Sun Microsystems
Sun Fire X4200

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
```

Copyright ©1999-2005, Standard Performance Evaluation Corporation

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 the Sun Fire X4200.  In addition,
Sun has submitted the same result for the Sun Fire X4100, which is
electronically equivalent to the Sun Fire X4200.
```