CFP2000 Result

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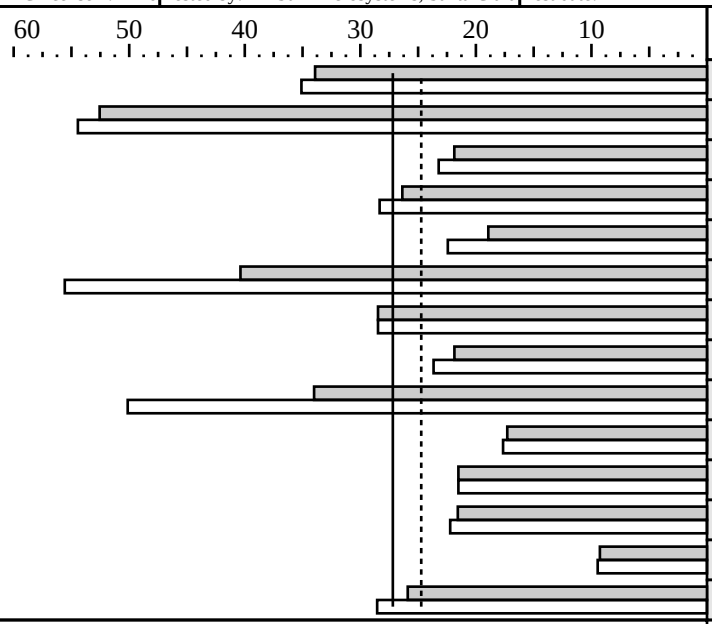
Sun Microsystems
Sun Fire X4100

SPECfp_rate2000 = 27.2

SPECfp_rate_base2000 = 24.7

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	1	54.7	33.9	1	52.9	35.1
171.swim	1	68.4	52.6	1	66.1	54.4
172.mgrid	1	95.5	21.9	1	89.9	23.2
173.applu	1	92.4	26.4	1	86.0	28.3
177.mesa	1	85.8	18.9	1	72.4	22.4
178.galgel	1	83.3	40.4	1	60.5	55.6
179.art	1	106	28.5	1	106	28.5
183.equake	1	69.0	21.9	1	63.7	23.7
187.facerec	1	64.8	34.0	1	44.0	50.1
188.ammp	1	148	17.3	1	145	17.6
189.lucas	1	108	21.5	1	108	21.5
191.fma3d	1	113	21.6	1	110	22.2
200.sixtrack	1	138	9.27	1	135	9.46
301.apsi	1	116	25.9	1	106	28.5

Hardware

CPU:	AMD Opteron (TM) 254
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 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:	8GB (4x2GB, 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 CPU using submit=pbind

Default BIOS setting was used ; Only one CPU was present on the system
```