CFP2000 Result

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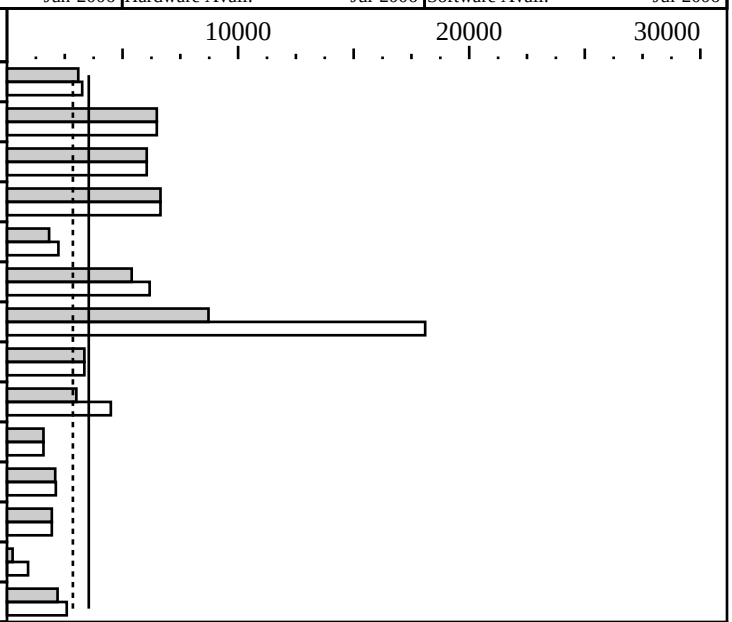
Sun Microsystems
Sun Fire X4600

SPECfp2000 = 3538

SPECfp_base2000 = 2851

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	51.9	3084	49.2	3254
171.swim	3100	47.8	6482	47.8	6482
172.mgrid	1800	29.8	6046	29.8	6046
173.applu	2100	31.6	6642	31.6	6642
177.mesa	1400	76.9	1822	62.9	2225
178.galgel	2900	53.8	5395	47.0	6172
179.art	2600	29.8	8719	14.4	18094
183.equake	1300	38.8	3348	38.8	3347
187.facerec	1900	63.3	3001	42.3	4493
188.ammp	2200	139	1578	139	1578
189.lucas	2000	95.9	2086	94.7	2113
191.fma3d	2100	108	1939	108	1939
200.sixtrack	1100	454	242	121	912
301.apsi	2600	119	2188	101	2585



Hardware

CPU:	AMD Opteron (TM) 856
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	4,8 (order by # of chips)
Parallel:	Yes
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:	32GB (16x2GB, PC3200 CL3 DDR SDRAM ECC Regd.)
Disk Subsystem:	SAS,73GB,10K RPM
Other Hardware:	None

Software

Operating System:	Solaris 10 1/06
Compiler:	Sun Studio 11 with Patches
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 -xautopar -xipo=2 -xarch=amd64
    C:   -fast  -xipo=2 -xalias_level=std -xpagesize=2m

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:       basepeak=yes
```

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Notes/Tuning Information (Continued)

```
 172.mgrid:      basepeak=yes
 173.applu:      basepeak=yes
 177.mesa:     -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
 178.galgel:    -fast -xautopar -stackvar -xipo=2 -xarch=amd64  -xprefetch_level=3
                EXTRA_LIBS        = -xlic_lib=sunperf
 179.art:      -fast -xipo=2 -xalias_level=strong -xprefetch -Wd,-iropt-prof -xpagesize=2m +FDO
 183.equake:    -fast -Wd,-iropt-prof -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m
 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:      basepeak=yes
 189.lucas:    -fast -xautopar -Qoption ube_ipa -inl_alt -xipo=2 -xarch=amd64 -xprefetch_level=3
 191.fma3d:     basepeak=yes
 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:  -fixed

Shell Environments:
  Stack size set to unlimited via "ulimit -s unlimited"
  export PARALLEL=4

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

The following patches were applied to Sun Studio 11 compiler:
120759-07 : x86/x64
121016-03 : x86 C
121020-03 : x86 F90
121018-03 : x86 C++

Default BIOS setting was used
```