CFP2000 Result

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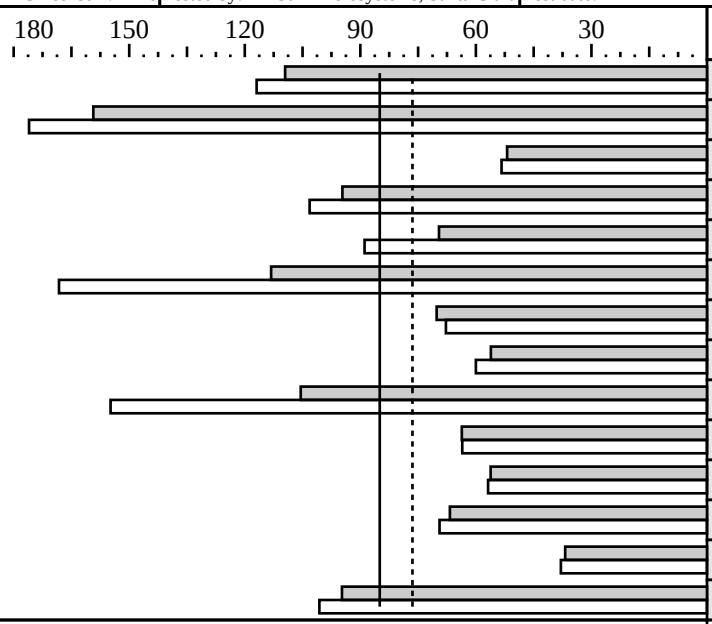
Sun Microsystems
Sun Ultra 40

SPECfp_rate2000 = 85.0

SPECfp_rate_base2000 = 76.5

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	67.8	110	4	63.5	117
171.swim	4	90.3	159	4	81.7	176
172.mgrid	4	161	51.9	4	157	53.3
173.applu	4	103	94.7	4	94.4	103
177.mesa	4	93.4	69.6	4	73.1	88.9
178.galgel	4	119	113	4	80.0	168
179.art	4	172	70.2	4	178	67.8
183.equake	4	107	56.1	4	101	60.0
187.facerec	4	83.6	105	4	56.9	155
188.ammp	4	160	63.7	4	161	63.5
189.lucas	4	165	56.2	4	163	56.8
191.fma3d	4	146	66.7	4	140	69.4
200.sixtrack	4	139	36.8	4	135	37.9
301.apsi	4	127	94.8	4	120	101

Hardware

CPU:	AMD Opteron (TM) 285
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:	SATA,205GB,7200 RPM
Other Hardware:	None

Software

Operating System:	Solaris 10 1/06
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 -xautopar -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 -xautopar -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 -xautopar -unroll=5 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a
                 -qoption iropt -Rloop_dist -xpagesize_heap=2m
177.mesa:      -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
178.galgel:   -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -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 -xO4 -xipo=2 -xprefetch_level=3 -xpagesize=2m
                 RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90
                 EXTRALIBS=-xlic_lib=sunperf
188.ammp:      -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -xO4 -xipo=2 -xarch=amd64a -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 -xcache=64/32/4:1024/64/4 -xarch=sse2a -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:  -fixed

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
```