CFP2000 Result

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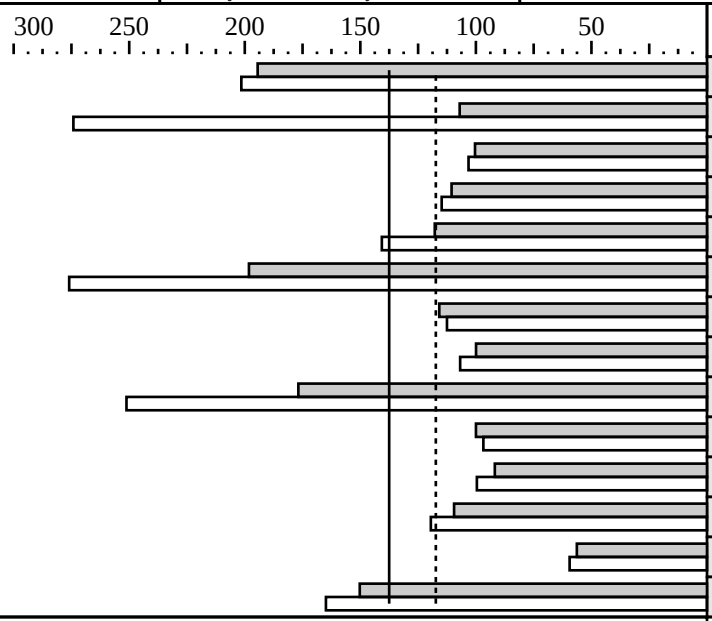
Sun Microsystems
Sun Fire V40z

SPECfp_rate2000 = 138

SPECfp_rate_base2000 = 117

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Apr-2005 | Hardware Avail: Jun-2005 | Software Avail: Apr-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	76.4	194	8	73.7	201
171.swim	8	269	107	8	105	274
172.mgrid	8	166	100	8	162	103
173.applu	8	176	111	8	170	115
177.mesa	8	110	118	8	92.3	141
178.galgel	8	136	198	8	97.5	276
179.art	8	208	116	8	214	113
183.equake	8	121	99.9	8	113	107
187.facerec	8	99.7	177	8	70.2	251
188.ammp	8	204	100.0	8	211	96.8
189.lucas	8	202	91.8	8	186	99.6
191.fma3d	8	178	109	8	163	119
200.sixtrack	8	181	56.3	8	172	59.4
301.apsi	8	161	150	8	146	165

Hardware

CPU:	AMD Opteron (TM) 875
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	2,4 (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:	SCSI, 73GB, 10K RPM
Other Hardware:	None

Software

Operating System:	Solaris 10
Compiler:	Sun Studio 10 with Patch-02 patches
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

```
Compiler invocation:
  C: cc
  CXX: 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 -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
                -Aujam:inner=g -xpagesize_heap=2m
 177.mesa:     -fast -xO4 -xipo=2 -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
 178.galgel:   -fast -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xvector=simd -xarch=amd64
                -xpagesize_heap=2m -Qoption ld -M,/usr/lib/ld/map.bssalign
                RM_SOURCES=lapak.f90
                EXTRALIBS=-xlic_lib=sunperf
 179.art:       -fast -xipo=2 -xarch=amd64 -xalias_level=std -xpagesize=2m -Xc
                -M /usr/lib/ld/map.bssalign -lm
 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:    -fast  -xprefetch_level=3  -Qoption ld -M,/usr/lib/ld/map.bssalign -xpagesize_stack=2m
 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

Patch-02 includes the following patches for Sun Studio 10 compiler, these can be
downloaded from http://developers.sun.com/prodtech/cc/downloads/patches/ss10_patches.html
as of 04/21/2005:
  117831-02 C++
  117837-02 C
  117845-01 Debugger
  117846-02 x86/x64 backend (codegen)

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used
```