



CFP2000 Result

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Sun Microsystems
Sun Fire V40z

SPECfp_rate2000 = 153

SPECfp_rate_base2000 = 140

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Oct-2005 Hardware Avail: Oct-2005 Software Avail: Nov-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	72.9	204	8	69.4	214
171.swim	8	94.9	303	8	87.0	330
172.mgrid	8	163	102	8	159	105
173.applu	8	114	171	8	108	181
177.mesa	8	102	128	8	85.1	153
178.galgel	8	128	211	8	87.2	309
179.art	8	199	121	8	199	121
183.quake	8	115	104	8	109	110
187.facerec	8	93.9	188	8	67.2	262
188.amp	8	179	114	8	189	108
189.lucas	8	171	109	8	171	109
191.fma3d	8	164	119	8	161	121
200.sixtrack	8	156	65.6	8	151	67.8
301.apsi	8	142	170	8	131	185

Hardware

CPU: AMD Opteron (TM) 880
CPU MHz: 2400
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: 32GB (16x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
Disk Subsystem: SCSI, 72GB, 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.earthquake: -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=cfft.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 CPUs using submit=pbind

Default BIOS setting was used