



CFP2000 Result

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Sun Microsystems
Sun Fire X2100 M2

SPECfp_rate2000 = 56.5
SPECfp_rate_base2000 = 48.5

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	59.6	62.3	2	58.7	63.2
171.swim	2	83.9	85.7	2	80.3	89.6
172.mgrid	2	129	32.4	2	119	34.9
173.applu	2	98.5	49.5	2	92.4	52.7
177.mesa	2	87.7	37.0	2	72.6	44.7
178.galgel	2	113	59.4	2	75.8	88.8
179.art	2	33.5	180	2	15.6	387
183.equake	2	48.3	62.5	2	44.8	67.4
187.facerec	2	70.7	62.4	2	49.2	89.6
188.amp	2	160	31.9	2	158	32.4
189.lucas	2	163	28.5	2	163	28.5
191.fma3d	2	126	38.5	2	124	39.3
200.sixtrack	2	141	18.0	2	138	18.4
301.apsi	2	127	47.6	2	116	52.1

Hardware

CPU: AMD Opteron (TM) 1218
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1
 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: 4GB (4x1GB, DDR2-667 CL5 ECC)
 Disk Subsystem: SATA,500GB,7200RPM
 Other Hardware: None

Software

Operating System: Solaris 10 6/06
 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:

```
Fortran: -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 ONESTEP=yes
C: -fast -xipo=2 -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
171.swim: -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt
```



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Notes/Tuning Information (Continued)

```

-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 -x04 -xipo=2 -xprefetch_level=3 -xarch=amd64a
-qoption iropt -Rloop_dist -xpagesize_heap=2m
177.mesa: -fast -xautopar -x04 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
178.galgel: -fast -xcache=64/32/4:1024/64/4 -xipo=2 -xpagesize_heap=2m -xprefetch_level=3 -xvector=simd -xarch=amd64
RM_SOURCES=lapak.f90
EXTRA_LIBS=-xlic_lib=sunperf
179.art: -fast -xipo=2 -xalias_level=strong -xprefetch -Wd,-iropt-prof -xpagesize=2m +FDO
183.quake: -fast -Wd,-iropt-prof -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m -lmopt -lm +FDO
187.facerec: -fast -x04 -xipo=2 -xprefetch_level=3 -xpagesize=2m
RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90
EXTRA_LIBS=-xlic_lib=sunperf
188.ammp: -fast -xcache=64/32/4:1024/64/4 -x04 -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 -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 -x04 -xipo=2 -xprefetch_level=3 -xarch=amd64a -xpagesize=2m

```

Portability:

178.galgel: -fixed

Shell Environments:

Stack size set to unlimited via "ulimit -s unlimited"

PARALLEL was not set, therefore each copy of the benchmark ran single-threaded using only one core.

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++

```

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used