



# CFP2000 Result

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Sun Microsystems  
Sun Ultra 45

SPECfp\_rate2000 = 15.8

SPECfp\_rate\_base2000 = 14.9

SPEC license #: 6 Tested by: Sun Microsystems Test date: Feb-2006 Hardware Avail: Jan-2006 Software Avail: Jan-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	112	16.5	1	112	16.6
171.swim	1	163	22.1	1	160	22.4
172.mgrid	1	233	8.95	1	233	8.95
173.applu	1	188	13.0	1	165	14.8
177.mesa	1	157	10.4	1	135	12.0
178.galgel	1	136	24.8	1	117	28.7
179.art	1	23.0	131	1	20.8	145
183.quake	1	74.8	20.2	1	69.6	21.7
187.facerec	1	99.6	22.1	1	96.8	22.8
188.amp	1	375	6.81	1	352	7.26
189.lucas	1	226	10.3	1	226	10.3
191.fma3d	1	298	8.19	1	267	9.13
200.sixtrack	1	187	6.81	1	179	7.13
301.apsi	1	283	10.7	1	283	10.6

### Hardware

CPU: UltraSPARC IIIi  
CPU MHz: 1600  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1,2 (order by # of chips)  
Parallel: No  
Primary Cache: 32KBI+64KBD per chip (on chip)  
Secondary Cache: 1MB(I+D) per chip (on chip)  
L3 Cache: None  
Other Cache: None  
Memory: 8GB(4x2GB DIMMs)  
Disk Subsystem: SATA,250GB,SATA  
Other Hardware: None

### Software

Operating System: Solaris 10 1/06  
Compiler: Sun Studio 11  
File System: ufs (default ufs logging on with Solaris 10)  
System State: Multi-User

## Notes/Tuning Information

### Compiler invocation:

C: cc  
F90: f90  
F77: f90

### Floating point base flags:

C: -fast -xipo=2 -xalias\_level=std with ONESTEP=yes and feedback  
F90: -fast -xipo=2 with ONESTEP=yes and feedback

### Floating point peak flags:

ONESTEP=yes and feedback for all benchmarks, unless otherwise noted

168.wupwise: -fast -xipo=2 -Qoption iropt -Ainline:inc=800:cp=1  
171.swim: -fast -xpad=common:3969 -xpagesize=64K -xprefetch=latx:1.6  
-Qoption iropt -Atile:skewp,-Ainline:cs=700  
(no feedback)  
172.mgrid: basepeak = yes



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## Notes/Tuning Information (Continued)

```
173.applu:  -fast -xipo=2
            -Qoption cg -Qlp=1-av=192-fa=1,-Qms_pipe+prefolim=7
            -Qoption iropt -Aujam:inner=g
177.mesa:   -fast -xipo=2 -xalias_level=strong -xrestrict
            -Wc,-Qms_pipe+unoovf
178.galgel: -fast -xipo=2 -Qoption iropt -Addint:sf=9
            EXTRALIBS=-xlic_lib=sunperf
            RM_SOURCES=lapak.f90
179.art:    -fast -xipo=2 -xalias_level=std -xprefetch=latx:1.5
183.equake: -fast -xipo=2 -xalias_level=strong -xprefetch_level=2
187.facerec: -fast -xipo=2 -xprefetch=latx:1.5
188.ammp:   -fast -xarch=v9b -xipo=2 -xalias_level=std -lmopt -lm
189.lucas:  basepeak=yes
191.fma3d:  -fast -xipo=2 -stackvar -xprefetch_level=3
            -Qoption iropt -Apf:pdl=1
            -xO4 -dalign -xchip=ultra3 -xarch=v8plusb -fsimple=2 -xprefetch=no
301.apsi:   -fast -xipo=2
```

Feedback is done as follows, unless otherwise noted:

```
fdo_pre0:  rm -rf ./feedback.profile ./SunWS_cache
PASS1:     -xprofile=collect:./feedback
PASS2:     -xprofile=use:./feedback
```

Portability:

```
178.galgel: -fixed
```

Shell Environments:

```
Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1
```

Kernel Parameters (/etc/system):

```
autoup=900
tune_t_fsflushr=1
```

System was tested in 1 CPU configuration.