



# CFP2000 Result

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Sun Microsystems  
Sun Fire V490(2 processor)

SPECfp\_rate2000 = 45.4

SPECfp\_rate\_base2000 = 39.3

SPEC license #: 6 Tested by: Sun Microsystems Test date: Dec-2004 Hardware Avail: Feb-2005 Software Avail: Jan-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	192	38.6	4	176	42.3
171.swim	4	540	26.6	4	190	75.8
172.mgrid	4	355	23.5	4	355	23.5
173.applu	4	303	32.2	4	253	38.5
177.mesa	4	171	37.9	4	153	42.6
178.galgel	4	176	76.6	4	135	99.8
179.art	4	32.9	366	4	31.8	380
183.equake	4	113	53.3	4	113	53.3
187.facerec	4	119	73.9	4	119	73.9
188.amp	4	362	28.2	4	362	28.2
189.lucas	4	463	20.0	4	443	20.9
191.fma3d	4	507	19.2	4	447	21.8
200.sixtrack	4	239	21.4	4	218	23.4
301.apsi	4	427	28.2	4	428	28.2

### Hardware

CPU: UltraSPARC IV  
CPU MHz: 1350  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chips  
CPU(s) orderable: 2,4 (order by # of chips)  
Parallel: No  
Primary Cache: 32KBI+64KBD per core on chip (64KBI+128KBD on chip)  
Secondary Cache: 8MB(I+D) per core off chip (16MB(I+D) off chip)  
L3 Cache: None  
Other Cache: None  
Memory: 16GB 8-way interleaved  
Disk Subsystem: 1 x 73GB  
Other Hardware: None

### Software

Operating System: Solaris 10  
Compiler: Sun Studio 9  
File System: ufs  
System State: Multi-User

## Notes/Tuning Information

### Compiler invocation:

C: cc  
CXX: 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)



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## Notes/Tuning Information (Continued)

```

172.mgrid:    basepeak = yes
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 -xlic_lib=sunperf
              RM_SOURCES=lapak.f90
179.art:      -fast -xipo=2 -xalias_level=std
              -Wc,-Qms_pipe-prefst,-Qms_pipe+prefolim=11
183.equake:   basepeak= yes
187.facerec:  basepeak= yes
188.ammp:     -fast -xipo=2 -xalias_level=std -xpagesize=512K -lmopt -lm
189.lucas:    -fast -xipo=2 -xprefetch_level=3 -Qoption iropt -Apf:pdl=1
              -Qoption f90comp -array_pad_rows,1977
191.fma3d:    -fast -xipo=2 -stackvar -xprefetch_level=3
              -Qoption iropt -Apf:pdl=1
200.sixtrack:-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: -e -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

```

Processes were bound to CPUs using submit=pbind