



# CFP2000 Result

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Sun Microsystems  
Sun Fire V490 (2 processor)

SPECfp\_rate2000 = 37.9

SPECfp\_rate\_base2000 = 33.4

SPEC license #: 6 Tested by: Sun Microsystems Test date: Sep-2004 Hardware Avail: Sep-2004 Software Avail: Jul-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	222	33.4	4	206	36.1
171.swim	4	556	25.9	4	241	59.6
172.mgrid	4	372	22.4	4	372	22.4
173.applu	4	369	26.4	4	312	31.3
177.mesa	4	225	28.9	4	203	32.0
178.galgel	4	223	60.4	4	171	78.5
179.art	4	42.4	285	4	40.7	297
183.quake	4	121	49.9	4	122	49.4
187.facerec	4	142	61.9	4	142	61.9
188.amp	4	447	22.8	4	450	22.7
189.lucas	4	492	18.8	4	463	20.0
191.fma3d	4	588	16.6	4	513	19.0
200.sixtrack	4	306	16.7	4	280	18.2
301.apsi	4	520	23.2	4	518	23.3

### Hardware

CPU: UltraSPARC IV  
CPU MHz: 1050  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
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 9 4/04 with patch 116561-03, 112233-12  
Compiler: Sun Studio 9  
File System: ufs with ufs logging  
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: -fast -xipo=2
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.quake: -fast -xipo=2 -xalias_level=strong -xprefetch_level=2
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

```

Physically removed 2nd module