



# CFP2000 Result

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Sun Microsystems  
Sun Fire V890 (8 processor)

SPECfp\_rate2000 = 151  
SPECfp\_rate\_base2000 = 130

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	16	234	127	16	225	132
171.swim	16	872	66.0	16	215	268
172.mgrid	16	513	65.1	16	514	65.1
173.applu	16	339	115	16	282	138
177.mesa	16	203	128	16	183	142
178.galgel	16	187	288	16	139	386
179.art	16	37.3	1292	16	36.1	1337
183.quake	16	168	143	16	167	144
187.facerec	16	138	255	16	138	255
188.amp	16	401	102	16	403	101
189.lucas	16	578	64.3	16	620	59.9
191.fma3d	16	573	68.0	16	555	70.2
200.sixtrack	16	273	74.7	16	252	80.9
301.apsi	16	456	106	16	456	106

**Hardware**

CPU: UltraSPARC IV  
CPU MHz: 1200  
FPU: Integrated  
CPU(s) enabled: 16 cores, 8 chips, 2 cores/chips  
CPU(s) orderable: 4,8 (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: 32GB 8-way interleaved  
Disk Subsystem: 1 x 73GB  
Other Hardware: None

**Software**

Operating System: Solaris 9 9/04  
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

```