



CFP2000 Result

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Sun Microsystems
Sun Fire V490 (1 processor)

SPECfp_rate2000 = 19.4

SPECfp_rate_base2000 = 17.2

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	2	217	17.1	2	201	18.4
171.swim	2	521	13.8	2	241	29.8
172.mgrid	2	350	11.9	2	349	12.0
173.applu	2	357	13.7	2	312	15.6
177.mesa	2	223	14.6	2	204	15.9
178.galgel	2	223	30.2	2	171	39.3
179.art	2	42.3	142	2	40.6	148
183.equake	2	110	27.5	2	111	27.1
187.facerec	2	139	31.6	2	139	31.6
188.amp	2	446	11.5	2	448	11.4
189.lucas	2	459	10.1	2	424	10.9
191.fma3d	2	571	8.54	2	499	9.77
200.sixtrack	2	307	8.30	2	279	9.14
301.apsi	2	510	11.8	2	511	11.8

Hardware

CPU: UltraSPARC IV
CPU MHz: 1050
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 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: 8GB 4-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
2nd chip disabled at boot time by using /etc/system
parameter "cpu_bringup_set"
```