



# CFP2000 Result

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Fujitsu Limited  
PRIMEPOWER900 (2160MHz)

SPECfp\_rate2000 = 180  
SPECfp\_rate\_base2000 = 168

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Dec-2005 | Hardware Avail: Feb-2006 | Software Avail: Nov-2005

4000	3000	2000	1000	Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
				168.wupwise	8	113	132	8	107	139
				171.swim	8	101	286	8	77.8	370
				172.mgrid	8	209	79.8	8	204	82.0
				173.applu	8	137	142	8	124	157
				177.mesa	8	121	107	8	98.9	131
				178.galgel	8	59.5	452	8	50.9	529
				179.art	8	10.9	2209	8	10.9	2222
				183.quake	8	78.4	154	8	77.4	156
				187.facerec	8	80.4	219	8	79.3	222
				188.amp	8	165	123	8	141	144
				189.lucas	8	214	86.6	8	214	86.6
				191.fma3d	8	233	83.7	8	230	84.6
				200.sixtrack	8	135	75.8	8	135	75.8
				301.apsi	8	180	134	8	180	134

### Hardware

CPU: SPARC64 V  
 CPU MHz: 2160  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 8 chips, 1 core/chip  
 CPU(s) orderable: 1 to 16 (increments of 1)  
 Parallel: None  
 Primary Cache: 128KBI + 128KBD on chip  
 Secondary Cache: 4MB(I+D) on chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 32GB (512MB x 64)  
 Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
 Other Hardware: None

### Software

Operating System: Solaris 10  
 Compiler: Sun Studio 11  
 File System: ufs  
 System State: multi user

## Notes/Tuning Information

```
FDO: (for Sun Studio 11)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback
```

```
Floating point base flags:
(using Fortran compiler of Sun Studio 11)
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes FDO
(using C compiler of Sun Studio 11)
-fast -xtarget=ultra3 -xipo=2 ONESTEP=yes FDO
```

```
Floating point peak flags:
(using Fortran compiler of Sun Studio 11)
168.wupwise: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
              -xipo=1 -Qoption iropt -Ainline:inc=800:cp=1 ONESTEP=yes FDO
171.swim:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
```



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## Notes/Tuning Information (Continued)

```

-xprefetch=latx:2.8 -Qoption iropt
-Ainline:cs=700,-Atile:skewp:b19 -xpad=common:1500
172.mgrid: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
           -stackvar -xipo=2 -xpad=common:800 -xprefetch=latx:1.6
           ONESTEP=yes FDO
173.applu: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
           -stackvar -xipo=2 -Qoption cg -Qlp=1-av=192-t=4-fa=1-fl=0
           -Qoption iropt -Aujam:inner=g ONESTEP=yes FDO
178.galgel: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xipo=2 -Qoption iropt -Addint:sf=9 -xlic_lib=sunperf
            RM_SOURCES=lapak.f90 ONESTEP=yes FDO
187.facerec: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xprefetch=latx:1.6 ONESTEP=yes FDO
189.lucas: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -stackvar -xipo=2 ONESTEP=yes FDO
191.fma3d: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xipo=2 ONESTEP=yes FDO
200.sixtrack: basepeak=yes
301.apsi: basepeak=yes

```

(using C compiler of Sun Studio 11)

```

177.mesa: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xchip=ultra2 -xalias_level=strong -xipo=2 -xrestrict
          ONESTEP=yes FDO
179.art: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
          -xipo=2 ONESTEP=yes FDO
183.quake: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
            -xalias_level=strong -W2,-whole -Wc,-Qms_pipe-pref,
            -Qlp=1-av=512-t=6-fa=1-fl=1 ONESTEP=yes FDO
188.ammp: -fast -xalias_level=std -xipo=2 ONESTEP=yes FDO

```

Portability:

178.galgel: -e -fixed

System Tunables:

```

(for /etc/system)
    set consistent_coloring=1
    set tune_t_fsflushr=86400
    set autoup=86400
    set memscrub_period_sec=172800

```

Shell Environments:

```

Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=4M
MPSSSTACK=4M
LD_PRELOAD=mpss.so.1

```

Processes were bound to CPUs using "submit=pbind"

Extended Interleave Mode enabled.

4 CPUs each on 2 system board. Unused CPUs have physically removed.

Sun Studio 11, posted at URL <http://www.sun.com/software/products/studio/index.xml> was used for this submission.



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## Notes/Tuning Information (Continued)

Model PRIMEPOWER850 (2160MHz) and model PRIMEPOWER900 (2160MHz) are electronically equivalent. This result was measured on model PRIMEPOWER900 (2160MHz).