



# CFP2000 Result

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Fujitsu Limited  
PRIMEPOWER250 (1320MHz)

SPECfp\_rate2000 = 27.3

SPECfp\_rate\_base2000 = 21.5

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Dec-2003 Hardware Avail: Feb-2004 Software Avail: Dec-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	315	11.8	2	148	25.1
171.swim	2	355	20.3	2	125	57.4
172.mgrid	2	290	14.4	2	238	17.5
173.applu	2	324	15.0	2	183	26.6
177.mesa	2	275	11.8	2	220	14.8
178.galgel	2	135	49.9	2	107	62.7
179.art	2	26.1	231	2	25.9	233
183.quake	2	93.4	32.3	2	92.6	32.6
187.facerec	2	172	25.7	2	155	28.4
188.amp	2	327	15.6	2	296	17.3
189.lucas	2	293	15.8	2	293	15.8
191.fma3d	2	335	14.5	2	298	16.3
200.sixtrack	2	261	9.77	2	257	9.91
301.apsi	2	281	21.5	2	275	21.9

### Hardware

CPU: SPARC64 V  
CPU MHz: 1320  
FPU: Integrated  
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip  
CPU(s) orderable: 1 to 2 (increments of 1)  
Parallel: None  
Primary Cache: 128KBI + 128KBD on chip  
Secondary Cache: 2MB(I+D) on chip  
L3 Cache: None  
Other Cache: None  
Memory: 4096MB (512MB x 8)  
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
Other Hardware: None

### Software

Operating System: Solaris 8 2/02 with current patches (see notes)  
Compiler: Fujitsu Parallelnavi 2.1  
Fujitsu Parallelnavi 2.3  
Sun ONE Studio 8  
Sun Performance Library 8  
File System: ufs  
System State: multi user

## Notes/Tuning Information

```
FDO: (for Parallelnavi 2.1 & 2.3)
fdo_pre0=rm -rf `pwd`/*.f.d
PASS1=-Kpg
PASS2=-Kpu
FDO: (for Sun ONE Studio 8)
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 ONE Studio 8)  
-fast -xtarget=ultra3 -lprism32 FDO  
(using C compiler of Sun ONE Studio 8)  
-fast -xtarget=ultra3 -xipo=2 ONESTEP=yes FDO

Floating point peak flags:



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## Notes/Tuning Information (Continued)

(using Fortran compiler of Parallelnavi 2.1)

191.fma3d: -fs -Kfast\_GP2=2,largepage,GREG\_SYSTEM -Am  
-x dir=./ -x55 -Kpreex,prefetch\_infer,prefetch=4 FDO

(using Fortran compiler of Parallelnavi 2.3)

168.wupwise: -fs -Kfast\_GP2=2,largepage -O5  
-x dir=./ -Kpreex,prefetch\_infer,preschedule\_length=17 FDO

172.mgrid: -fs -Kfast\_GP2=2,largepage,GREG\_SYSTEM  
-Kprefetch\_line=6,commonpad=124 FDO

(using Fortran compiler of Sun ONE Studio 8)

171.swim: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xpad=common:1660 -xprefetch=latx:2.6  
-Qoption cg -Qiselect-funcalign=64  
-Qoption iropt -Ainline:cs=700,Atile:skewp:b10 -lprism32

173.applu: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plus -xipo=2 -xprefetch=latx:0.8  
-Qoption cg -Qiselect-funcalign=64  
-Qoption iropt -Aujam:inner=g ONESTEP=yes FDO

178.galgel: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plusa -xchip=ultra2e -xipo=2 -xprefetch=latx:0.8  
-Qoption cg -Qiselect-funcalign=64  
-Qoption iropt -Addint:sf=9 -lprism32 -xlic\_lib=sunperf

RM\_SOURCES=lapak.f90 ONESTEP=yes FDO

187.facerec: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plus -xprefetch\_level=1 -xprefetch=latx:1.6  
-Qoption cg -Qiselect-funcalign=64 -lprism32 ONESTEP=yes FDO

189.lucas: basepeak=yes

200.sixtrack: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xipo=2 -lprism32 ONESTEP=yes FDO

301.apsi: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plus -xchip=ultra2 -xipo=2 -xprefetch=latx:2.4  
-lprism32 ONESTEP=yes FDO

(using C compiler of Sun ONE Studio 8)

177.mesa: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xchip=ultra2 -xalias\_level=strong -xipo=2  
-xrestrict -Wc,-Qgsched-T4,-Qgsched-trace\_late=1,  
-Qiselect-funcalign=64,-Qms\_pipe+unoovf ONESTEP=yes FDO

179.art: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plusa -xalias\_level=std -xipo=2  
-Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO

183.quake: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xarch=v8plus -xalias\_level=strong -xdepend -xprefetch=latx:1.2  
-W2,-Amemopt:arrayloc,-whole -Wc,-Qiselect-funcalign=64,  
-Qms\_pipe-pref,-Qlp=1-av=512-t=6-fa=1-fl=1 -lprism32 -lmopt -lm  
ONESTEP=yes FDO

188.ammp: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4  
-xalias\_level=std -xchip=ultra3 -xdepend -xipo=2  
-xprefetch=latx:2.6 -xrestrict -Wc,-Qiselect-funcalign=64  
-lprism32 ONESTEP=yes FDO

Portability:

178.galgel: -e -fixed

System Tunables:



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```
(for /etc/system)
  set consistent_coloring=1
  set shmsys:shminfo_shmmax=2147483648, set shmsys:shmmni=256,
  set shmsys:shminfo_shmseg=400, set shmsys:shmmin=1
  set tune_t_fsflushr = 86400
  set autoup = 86400
```

```
(for /etc/opt/FJSVpnm/lpg.conf)
  TSS=1024M, SHMSEGSIZE=256M
```

### Shell Environments:

```
Stack size set to unlimited via "ulimit -s unlimited"
LD_LIBRARY_PATH="/opt/SUNWspro/prod/lib/v8plusb"
PRISM_HEAP=268435456
PRISM_MODE=2
```

Sun ONE Studio 8, posted at URL <http://www.sun.com/software/sundev/suncc/> was used for this submission.  
All patches for Solaris 8 posted at [http://access1.sun.com/patch.public/cgi-bin/show\\_list.cgi/wrk/Sun\\_ONE\\_Studio\\_8\\_SPARC\\_SunOS\\_5.8](http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_8_SPARC_SunOS_5.8) as of date 2003/12/17 were applied: 108434-13, 108435-13, 111697-04, 111721-04.  
Processes were bound to CPUs using "submit=pbind"