



# CFP2000 Result

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Fujitsu Limited  
PRIMEPOWER450 (1100MHz)

SPECfp\_rate2000 = 41.4  
SPECfp\_rate\_base2000 = 34.8

SPEC license #: 19 Tested by: Fujitsu Limited Test date: May-2003 Hardware Avail: Jul-2003 Software Avail: May-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	368	20.2	4	170	43.7
171.swim	4	376	38.2	4	240	60.0
172.mgrid	4	305	27.4	4	271	30.8
173.applu	4	336	29.0	4	236	41.2
177.mesa	4	344	18.9	4	265	24.5
178.galgel	4	219	61.5	4	191	70.6
179.art	4	46.4	260	4	46.4	260
183.quake	4	102	59.1	4	101	59.6
187.facerec	4	194	45.4	4	176	50.0
188.amp	4	512	19.9	4	430	23.7
189.lucas	4	310	29.9	4	310	29.9
191.fma3d	4	378	25.8	4	351	27.8
200.sixtrack	4	317	16.1	4	315	16.2
301.apsi	4	391	30.9	4	389	31.0

### Hardware

CPU: SPARC64 V  
CPU MHz: 1100  
FPU: Integrated  
CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
CPU(s) orderable: 1 to 4 (increments of 1)  
Parallel: None  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 1MB(I+D) on chip  
L3 Cache: None  
Other Cache: None  
Memory: 8192MB  
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
Other Hardware: None

### Software

Operating System: Solaris8 2/02 with current patches (see notes)  
Compiler: Fujitsu Parallelnavi 2.1 with patch 912528-02  
Sun ONE Studio 8  
(EA2 version of Sun ONE Studio 8 used)  
Sun Performance Library 8  
File System: ufs  
System State: multi user

## Notes/Tuning Information

```
FDO: (for Parallelnavi 2.1)
fdo_pre0=rm -rf `pwd`/*.f.d
PASS1=-Kpg PASS2=-Kpu
FDO: (for Sun ONE Studio 8 EA2)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback
Baseline:
(using Fortran compiler of Sun ONE Studio 8 EA2)
-fast -xtarget=ultra3 -lprism32 FDO
(using C compiler of Sun ONE Studio 8 EA2)
-fast -xtarget=ultra3 -xipo=2 FDO ONESTEP=yes
Peak:
(for Parallelnavi 2.1)
168.wupwise: -fs -Kfast_GP2=2,largepage -O5 -x dir=./
-Kpreex,prefetch_infer,alignl=64,preschedule_length=17 FDO
172.mgrid: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM
```



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```

-Kpreex,prefetch_line=6,commonpad=144,alignc=64 FDO
178.galgel: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -x dir=./
-Kpreex,prefetch_infer,prefetch=4,frecipro,unroll=2,commonpad=152,
arraypad_const=11,alignl=64 -Am -Fixed -KFMADD -SSL2 FDO
191.fma3d: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -x dir=./ -x55
-Kpreex,prefetch_infer,prefetch=4 FDO
(using FORTRAN90 compiler of Sun ONE Studio 8 EA2)
171.swim: -fast -xchip=ultra3cu -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xpad=common:4002 -xprefetch=latx:2.2
-Qoption iropt -Atile:skewp,-Ainline:cs=700 -lprism32
173.applu: -fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xipo=2 -xprefetch=latx:0.6 FDO ONESTEP=yes

187.facerec: -xO5 -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plus
-xprefetch=yes -xprefetch_level=1 -xprefrtch=latx:2.0 -xvector=no
-xdepend -fttrap=%none -fns -fsimple=2 -lprism32 FDO ONESTEP=yes
189.lucas: basepeak=yes
200.sixtrack: -fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xipo=2 -lprism32 ONESTEP=yes
301.apsi: -fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xipo=2 -xprefrtch=latx:2.0 -Qoption iropt -Mt450 -lprism32 FDO ONESTEP=yes

(using C compiler of Sun ONE Studio 8 EA2)
177.mesa: -fast -xchip=ultra2 -xcache=128/64/2:1024/64/2 -xarch=v8plusb -xipo=2
-xrestrict -xalias_level=strong
-Wc,-Qgsched-trace_late=1,-Qgsched-T4,-Qms_pipe+unoovf FDO ONESTEP=yes
179.art: -fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xipo=2 -xalias_level=std FDO ONESTEP=yes
183.quake: -fast -xchip=ultra3cu -xcache=128/64/2:1024/64/2 -xarch=v8plusb
-xalias_level=strong -xdepend -W2,-whole,-Amemopt:arrayloc -xprefetch
-Wc,-Qms_pipe-pref,-Qlp=1-av=512-t=6-fa=1-fl=1 -lprism32 -lmopt -lm FDO ONESTEP=yes
188.ammp: -fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb -xipo=2
-xrestrict -xalias_level=std -xdepend -xprefetch=latx:2.6 -lprism32 FDO ONESTEP=yes

```

### Portability:

#### Base:

178.galgel: -e -fixed (for Sun ONE Studio 8 EA2)

#### Peak:

178.galgel: -Am -Fixed (for Parallelnavi 2.1)

#### Note:

System Tunables: (for /etc/system)

```

consistent_coloring=1,
shmsys:shminfo_shmmax=2147483648, shmsys:shminfo_shmmni=256,
shmsys:shminfo_shmseg=400,shminfo_shmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400

```

(for /etc/opt/FJSVpnm/lpg.conf)

TSS=1024M, SHMSEGSIZE=256M

#### Shell Environments:

```

LD_LIBRARY_PATH="/opt3/SUNWspro/prod/lib/v8plusb"
PRISM_MODE=2

```

Feedback directed optimization was used except 171.swim(peak).

Stack size set to unlimited via "ulimit -s unlimited"

Sun ONE Studio 8 EA2 (Early Access 2), posted at URL <http://access1.sun.com/slsprod8> as updated through 27-Mar-2003, was used for this submission.

Sun ONE Studio 8 (final) will ship May-2003.

Standard Performance Evaluation Corporation

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All patches for Solaris8 posted at

[http://access1.sun.com/patch.public/cgi-bin/show\\_list.cgi/wrk/Sun\\_ONE\\_Studio\\_7\\_SPARC\\_SunOS\\_5.8](http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_7_SPARC_SunOS_5.8)  
as of date 2003/04/21 were applied: 108434-11, 108435-11, 111697-04, 111721-03.