



# CFP2000 Result

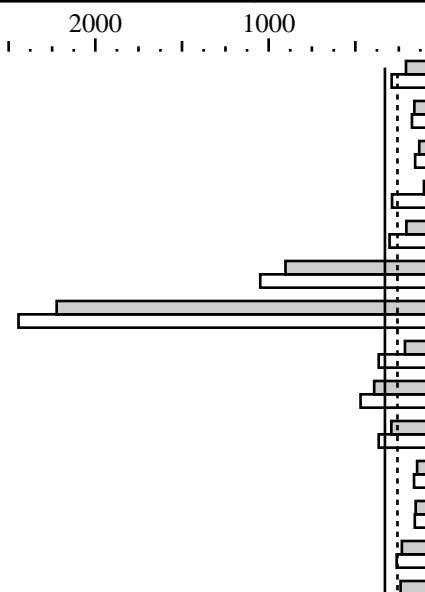
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**Fujitsu Siemens Computers**  
**PRIMEPOWER800/1000/2000 (788MHz)**

**SPECfp\_rate2000 = 329**  
**SPECfp\_rate\_base2000 = 257**

SPEC license #: 22 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Sep-2002 | Software Avail: May-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	64	572	208	64	409	290
171.swim	64	1442	160	64	1328	173
172.mgrid	64	1018	131	64	862	155
173.applu	64	1496	104	64	541	288
177.mesa	64	506	206	64	344	302
178.galgel	64	238	903	64	205	1049
179.art	64	86.8	2224	64	79.0	2444
183.quake	64	452	214	64	264	365
187.facerec	64	360	391	64	300	470
188.amp	64	559	292	64	447	365
189.lucas	64	1034	144	64	920	161
191.fma3d	64	1027	152	64	994	157
200.sixtrack	64	353	232	64	312	262
301.apsi	64	808	239	64	788	245



### Hardware

CPU: SPARC64 GP  
 CPU MHz: 788  
 FPU: Integrated  
 CPU(s) enabled: 64 cores, 64 chips, 1 core/chip  
 CPU(s) orderable: 4 to 16/4 to 32/8 to 128  
 Parallel: None  
 Primary Cache: 128KBI+128KBD on chip  
 Secondary Cache: 8MB(I+D) off chip, per CPU  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16GB  
 Disk Subsystem: 1 x 36GB, 1 x 18GB SCSI (10000rpm)  
 Other Hardware: Ethernet

### Software

Operating System: Solaris 8 2/02 with patches 108434-07 and 108435-07.  
 Compiler: Fujitsu Parallelnavi 1.0.2  
               with patches 911403-01 and 911746-01.  
               Sun ONE Studio 7 with current patches (see notes)  
               Sun Performance Library 7  
 File System: ufs  
 System State: multi user

## Notes/Tuning Information

```
FDO: (Parallelnavi 1.0.2)
  fdo_pre0=rm -rf `pwd`/*.*.d
  PASS1=-Kpg    PASS2=-Kpu
FDO: (Sun ONE Studio 7)
  fdo_pre0=rm -rf `pwd`/../feedback.profile
  PASS1=-xprofile=collect:`pwd`/../feedback
  PASS2=-xprofile=use:`pwd`/../feedback
Baseline :
(using Fortran compiler of Parallelnavi 1.0.2)
-Kfast_GP=2 largepage -O4 FDO

(using C compiler of Sun ONE Studio 7)
-fast -xipo=2 -xdepend FDO

Peak:
(using Fortran compiler of Parallelnavi 1.0.2)
168.wupwise: -Kfast_GP=2,prefetch=4,nounroll -x dir=`pwd`/../../src
```



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## Notes/Tuning Information (Continued)

```

-fs -lssl2mtfma FDO ONESTEP=yes
171.swim: -Kfast_GP=2,GREG,preex,ilfunc,prefetch=3,commonpad=152,prefetch_iteration=3,unroll=2,nogs,frecipro
-O4 -fs
172.mgrid: -Kfast_GP=2,preex,GREG,commonpad=144,unroll=3,prefetch=3
-O4 -dn -fs
178.galgel: -Kfast_GP=2,GREG,ilfunc,largepage,preex,unroll=3,prefetch_iteration=2,commonpad=24
-O4 -lssl2mtfma -fs FDO
RM_SOURCES=lapak.f90
200.sixtrack: -Kfast_GP=2,GREG,noprefetch,unroll=4,largepage,frecipro -fs
301.apsi: -Kfast_GP=2,GREG,ilfunc,preex,largepage,unroll=2 -O4 -fs

```

(using FORTRAN77 compiler of Sun ONE Studio 7)

```

173.applu: -fast -xtarget=ultra3 -Qoption iropt -Adata_access,-Mt7000,-Mm14000,-Mr40000,-Ma400,-whole
-xregs=syst -Qoption iropt -Rscalarrep,-MR -Qoption cg
-Qlp=1-av=192-fa=1 -Qoption f90comp -O3 -stackvar ONESTEP=yes

```

(using FORTRAN90 compiler of Sun ONE Studio 7)

```

187.facerec: -fast -xarch=v9 FDO ONESTEP=yes
189.lucas: -fast -xtarget=ultra3 -xregs=syst -xipo=2
-lprism32 -lmopt -lm FDO ONESTEP=yes
191.fma3d: -fast -xarch=v8plusb -xcrossfile -stackvar -xdepend
-xprefetch -Qoption cg -Qlp=1-av=256-t=3-fa=1 FDO ONESTEP=yes

```

(using C compiler of Sun ONE Studio 7)

```

177.mesa: -fast -xtarget=ultra2 -xcrossfile -xrestrict -xalias_level=strong
-xregs=syst -Wc,-Qgsched-trace_late=1,-Qgsched-trace_spec_load=1
-xarch=v8plus -W2,-Amemopt -xsafe=mem -dn
FDO ONESTEP=yes
179.art: -fast -xtarget=ultra3 -xipo=2 -xalias_level=strong -xregs=syst -dn
FDO ONESTEP=yes
183.earthquake: -fast -xtarget=ultra3 -xalias_level=std -xdepend
-W2,-whole,-Amemopt:arrayloc,-crit -xprefetch -Wc,-Qms_pipe-pref,-Qlp=1-av=256-t=4-fa=1-fl=1 -lprism32 -lmopt -lm
FDO ONESTEP=yes
188.ammp: -fast -xtarget=ultra3 -xcrossfile -xrestrict
-xalias_level=strong -xdepend -xprefetch
-Wc,-Qiselect-funcalign=64 -lprism32 FDO ONESTEP=yes

```

Portability:

```

(for Parallelnavi 1.0.2)
178.galgel: -Am -Fixed
187.facerec: -Am
191.fma3d: -Am

```

Note:

System Tunables: (for /etc/system)

```

consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
shmsys:shminfo_shmmax=1477846784, shmsys:shminfo_shmmini=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1
(for /etc/opt/FJSVpnm/lpg.conf)
TSS=32768M, SHMSEGSIZE=256M

```

Shell Environments:

```

LD_LIBRARY_PATH="/usr/lib:/opt/SUNWspro/lib/v8plusb:/opt/SUNWspro/prod/lib/v8plusb:/opt/FSUNf90/lib"
LD_LIBRARY_PATH_64="/usr/lib/64:/opt/SUNWspro/lib/v9:/opt/SUNWspro/prod/lib/v9"
PRISM_HEAP=268435456
PRISM_MODE=2

```

Feedback directed optimization was used for all baseline benchmarks and peak benchmarks



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## Notes/Tuning Information (Continued)

except following peak benchmarks: 171.swim, 172.mgrid, 173.applu, 200.sixtrack.  
All patches of Sun ONE Studio 7 posted at URL <http://access1.sun.com/sundev/sls7-patches.html>  
as of date 2002/6/4 were applied: 111704-01, 111705-01, 111706-01,  
111708-01, 111709-01, 111715-01, 111716-01.