



# CFP2000 Result

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Fujitsu Siemens Computers  
PRIMEPOWER400 (600MHz)

SPECfp\_rate2000 = 18.0

SPECfp\_rate\_base2000 = 13.1

SPEC license #: 22 | Tested by: Fujitsu Limited | Test date: Sep-2001 | Hardware Avail: Oct-2001 | Software Avail: Dec-2001

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	544	13.7	4	394	18.8
171.swim	4	1342	10.7	4	1234	11.7
172.mgrid	4	896	9.33	4	748	11.2
173.applu	4	1299	7.50	4	573	17.0
177.mesa	4	442	14.7	4	419	15.5
178.galgel	4	293	45.9	4	249	54.0
179.art	4	621	19.4	4	117	103
183.quake	4	885	6.81	4	473	12.8
187.facerec	4	442	19.9	4	363	24.3
188.amp	4	600	17.0	4	571	17.9
189.lucas	4	940	9.88	4	931	9.97
191.fma3d	4	1137	8.57	4	1048	9.30
200.sixtrack	4	447	11.4	4	395	12.9
301.apsi	4	794	15.2	4	780	15.5

### Hardware

CPU: SPARC64 GP  
 CPU MHz: 600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 1 to 4  
 Parallel: None  
 Primary Cache: 128KBI+128KBD on chip  
 Secondary Cache: 8MB(I+D) off chip, per CPU  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8192MB  
 Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
 Other Hardware: None

### Software

Operating System: Solaris 8 7/01  
 Compiler: Fujitsu Parallelnavi 1.0.2  
                   with patch 911403-01  
                   Sun Forte Developer 6 update 2  
 File System: ufs  
 System State: single user

## Notes/Tuning Information

```
FDO: (Parallelnavi 1.0.2)
  fdo_pre0=rm -rf `pwd`/*.*.d
  PASS1=-Kpg    PASS2=-Kpu
FDO: (Forte Developer 6 update 2)
  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 -fs FDO

(using C compiler of Parallelnavi 1.0.2)
-Kfast_GP=2,largepage FDO

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



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## Notes/Tuning Information (Continued)

171.swim: -Kfast\_GP=2,GREG,preex,ilfunc,prefetch=3,commonpad=152,prefetch\_iteration=3,unroll=2,nogs,frecipro  
-O4 -dn -fs  
172.mgrid: -Kfast\_GP=2,preex,GREG,commonpad=144,unroll=3,prefetch=3  
-O4 -dn -fs  
178.galgel: -Kfast\_GP=2,GREG,largepage,preex,unroll=2,prefetch\_iteration=2,commonpad=24  
-O4 -lssl2mtfma -fs FDO  
RM\_SOURCES=lapak.f90  
189.lucas: -Kfast\_GP=2,GREG,preex,largepage,nounroll -O4 -fs FDO  
191.fma3d: -Kfast\_GP=2,preex,GREG,nounroll,V9FMADD,prefetch=4 -O4 -fs FDO  
200.sixtrack: -Kfast\_GP=2,GREG,noprefetch,unroll=4,largepage,frecipro -fs  
301.apsi: -Kfast\_GP=2,GREG,preex,largepage,unroll=2 -O4 -fs FDO

(using C compiler of Parallelnavi 1.0.2)

188.ammp: -Kfast\_GP=2,GREG,popt,prefetch=4,preex,preload,largepage,fuse,unroll=3 -x-

(using FORTRAN77 compiler of Forte Developer 6 update 2)

173.applu: -fast -Qoption iropt -whole,-Adata\_access,-Mt6000,-Mm12000,-Mr40000,-Ma400 -xarch=v8plus -dn  
ONESTEP=yes

(using FORTRAN90 compiler of Forte Developer 6 update 2)

187.facerec: -fast -xarch=v9 FDO ONESTEP=yes

(using C compiler of Forte Developer 6 update 2)

177.mesa: -fast -xcrossfile -xrestrict -xalias\_level=std -xregs=syst -Wc,-Qgsched-trace\_late=1,-Qgsched-trace\_spec\_load=1  
-xarch=v8plus -W2,-Amemopt -dn  
FDO ONESTEP=yes  
179.art: -fast -xalias\_level=strong -xdepend -xregs=syst -W2,-whole,-Amemopt  
-xarch=v8plus -lmopt -lm -dn FDO ONESTEP=yes  
183.quake: -fast -xalias\_level=strong -xdepend -W2,-whole,-Amemopt  
-xarch=v8plus -lmopt -lm 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=8589934592, shmsys:shminfo\_shmmni=1024, shmsys:shminfo\_shmseg=1024  
(for /etc/opt/FJSPVpnrmlpg.conf)  
TSS=512M, SHMSEGSIZE=256M

Feedback directed optimization was used for all baseline benchmarks and peak benchmarks except following peak benchmarks: 171.swim, 172.mgrid, 173.applu, 188.ammp, 200.sixtrack.