



CFP2000 Result

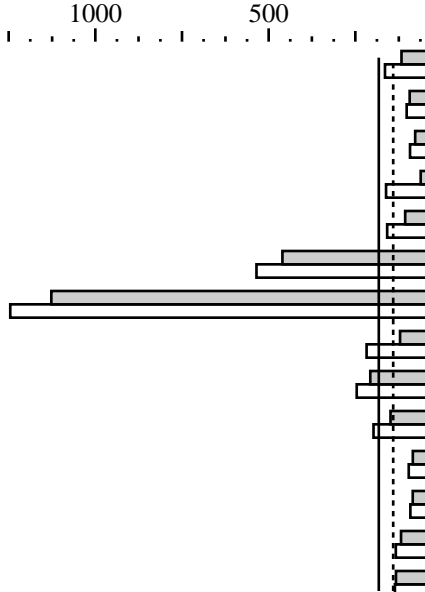
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Fujitsu Limited
PRIMEPOWER800/1000/2000 (788MHz)

SPECfp_rate2000 = 182
SPECfp_rate_base2000 = 141

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Aug-2002 | Software Avail: May-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	32	508	117	32	361	164
171.swim	32	1234	93.2	32	1129	102
172.mgrid	32	863	77.4	32	725	92.2
173.applu	32	1269	61.4	32	483	161
177.mesa	32	489	106	32	329	158
178.galgel	32	234	460	32	201	535
179.art	32	85.7	1127	32	77.5	1245
183.equake	32	399	121	32	222	218
187.facerec	32	341	207	32	287	246
188.amp	32	550	149	32	413	198
189.lucas	32	882	84.2	32	774	95.9
191.fma3d	32	924	84.4	32	855	91.2
200.sixtrack	32	346	118	32	306	133
301.apsi	32	727	133	32	710	136



Hardware
 CPU: SPARC64 GP
 CPU MHz: 788
 FPU: Integrated
 CPU(s) enabled: 32 cores, 32 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 Sun ONE Studio 7)
-fast -xtarget=ultra3 -lprism32 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 -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=3,prefetch_iteration=2,commonpad=24
        -O4 -lssl2mtfma -fs FDO
        RM_SOURCES=lapak.f90
200.sixtrack: -Kfast_GP=2,GREG,noprefetch,unroll=4,frecipro -dn
301.apsi: -Kfast_GP=2,GREG,preex,ilfunc,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 Sun ONE Studio 7)
178.galgel: -e -fixed
(for Parallelnavi 1.0.2)
178.galgel: -Am -Fixed

```

Note:

```

System Tunables: (for /etc/system)
consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
shmsys:shminfo_shmmax=1477846784, shmsys:shminfo_shmnni=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1
(for /etc/opt/FJSVpnm/lpg.conf)
TSS=16384M, 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 except following peak benchmarks: 171.swim, 172.mgrid, 178.galgel, 200.sixtrack, 301.apsi.



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Notes/Tuning Information (Continued)

All patches of Sun ONE Studio 7 posted at URL <http://access1.sun.com/sundev/s1s7-patches.html> as of date 2002/6/4 were applied: 111704-01, 111705-01, 111706-01, 111708-01, 111709-01, 111715-01, 111716-01.