



CFP2000 Result

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Fujitsu Limited
PRIMEPOWER200 (700MHz)

SPECfp_rate2000 = 11.1
SPECfp_rate_base2000 = 8.58

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

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise | 2 | 483 | 7.69 | 2 | 361 | 10.3 |
| 171.swim | 2 | 1026 | 7.01 | 2 | 985 | 7.30 |
| 172.mgrid | 2 | 732 | 5.71 | 2 | 636 | 6.57 |
| 173.applu | 2 | 1112 | 4.38 | 2 | 490 | 9.95 |
| 177.mesa | 2 | 537 | 6.05 | 2 | 349 | 9.29 |
| 178.galgel | 2 | 310 | 21.7 | 2 | 218 | 30.8 |
| 179.art | 2 | 95.3 | 63.3 | 2 | 69.1 | 87.3 |
| 183.quake | 2 | 410 | 7.35 | 2 | 273 | 11.0 |
| 187.facerec | 2 | 372 | 11.8 | 2 | 339 | 13.0 |
| 188.amp | 2 | 617 | 8.27 | 2 | 492 | 10.4 |
| 189.lucas | 2 | 690 | 6.73 | 2 | 687 | 6.75 |
| 191.fma3d | 2 | 901 | 5.41 | 2 | 882 | 5.53 |
| 200.sixtrack | 2 | 512 | 4.99 | 2 | 341 | 7.49 |
| 301.apsi | 2 | 749 | 8.05 | 2 | 710 | 8.50 |

Hardware

CPU: SPARC64 GP
CPU MHz: 700
FPU: Integrated
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
CPU(s) orderable: 1 to 2
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: 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: single 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 FORTRAN77 compiler of Sun ONE Studio 7)
168.wupwise: -fast -xtarget=ultra3 -xarch=v8plus -xipo=2 -xlic_lib=sunperf -lprism32 FDO ONESTEP=yes
```



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Notes/Tuning Information (Continued)

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
191.fma3d: -fast -xarch=v8plusb -xcrossfile -stackvar -xdepend
-xprefetch -Qoption cg -Qlp=1-av=256-t=3-fa=1 FDO ONESTEP=yes

(using Fortran compiler of Parallelnavi 1.0.2)

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 -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,largepage,frecipro -fs
301.apsi: -Kfast_GP=2,GREG,preex,ilfunc,largepage,unroll=2 -O4 -fs

(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.equake: -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_shmni=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1

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

TSS=4G, 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, 173.applu, 200.sixtrack.

System board used with only one CPU present.

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.