



CFP2000 Result

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Fujitsu Limited
PRIMEPOWER650 (1080MHz)

SPECfp2000 = 1129

SPECfp_base2000 = 912

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

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|----------------|----------------|--------------|------------|---------|-------|
| 168.wupwise | 1600 | 380 | 421 | 156 | 1023 |
| 171.swim | 3100 | 246 | 1259 | 145 | 2142 |
| 172.mgrid | 1800 | 225 | 801 | 192 | 939 |
| 173.applu | 2100 | 315 | 666 | 230 | 913 |
| 177.mesa | 1400 | 349 | 401 | 272 | 514 |
| 178.galgel | 2900 | 158 | 1837 | 127 | 2290 |
| 179.art | 2600 | 31.5 | 8242 | 31.9 | 8142 |
| 183.earthquake | 1300 | 78.2 | 1663 | 71.2 | 1827 |
| 187.facerec | 1900 | 177 | 1074 | 160 | 1191 |
| 188.amp | 2200 | 381 | 578 | 330 | 668 |
| 189.lucas | 2000 | 209 | 956 | 184 | 1085 |
| 191.fma3d | 2100 | 326 | 645 | 294 | 715 |
| 200.sixtrack | 1100 | 349 | 315 | 331 | 333 |
| 301.apsi | 2600 | 324 | 804 | 323 | 805 |

Hardware

CPU: SPARC64 V
CPU MHz: 1080
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 1 to 8 (increments of 1)
Parallel: None
Primary Cache: 128KBI+128KBD on chip
Secondary Cache: 2MB(I+D) on chip
L3 Cache: None
Other Cache: None
Memory: 4096MB
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 ONESTEP=yes FDO
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 -Kpreex,prefetch_line=6,commonpad=144,alignc=64 FDO
```



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Notes/Tuning Information (Continued)

```

189.lucas: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -O5
          -Kpreex,prefetch_infer,prefetch_line=6,preschedule_length=70 FDO
191.fma3d: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -x dir=./ -x55
          -Kpreex,prefetch_infer,prefetch=4 FDO
200.sixtrack: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -O5
             -Kunroll=2,preex,prefetch_line=8,recipro,novfunc,preschedule_length=27 FDO
             (using FORTRAN90 compiler of Sun ONE Studio 8 EA2)
171.swim: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plusb
          -xpad=common:4002 -xprefetch=latx:2.2
          -Qoption iropt -Atile:skewp,-Ainline:cs=700 -lprism32
173.aplu: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plusb
          -xipo=2 -xprefetch=latx:0.6 FDO ONESTEP=yes
178.galgel: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plusb -xipo=2
            -xprefetch=latx:0.4 -Qoption iropt -Addindt:sf=9
            -lprism32 -xlic_lib=sunperf RM_SOURCES=lapak.f90 FDO ONESTEP=yes

187.facerec: -xO5 -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plus
            -xprefetch=yes -xprefetch_level=1 -xprefrtch=latx:2.0 -xvector=no -xdepend -ftrap=%none
            -fns -fsimple=2 -lprism32 FDO ONESTEP=yes
301.apsi: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -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=128/64/2:2048/64/4 -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=128/64/2:2048/64/4 -xarch=v8plusb -xipo=2 -xalias_level=std FDO ONESTEP=yes
183.equake: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -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=128/64/2:2048/64/4 -xarch=v8plusb
          -xipo=2 -xrestrict -xalias_level=std -xdepend -xprefetch=latx:2.6 -lprism32 FDO ONESTEP=yes

```

Portability:

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

Note:

```

System Tunables: (for /etc/system)
consistent_coloring=1,
shmsys:shminfo_shmmax=2147483648, shmsys:shminfo_shmmni=256,
shmsys:shminfo_shmseg=400,shminfo_shmmni=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_HEAP=268435456
PRISM_MODE=2

```

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

Small configuration memory system mode used ("4cpu mode", enabled via front panel).

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

System board used with only one CPU present.

Sun ONE Studio 8 EA2 (Early Access 2), posted at URL <http://access1.sun.com/s1sprod8> as updated through 27-Mar-2003, was used for this submission.

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

All patches for Solaris8 posted at

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org>



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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.