# CFP2000 Result

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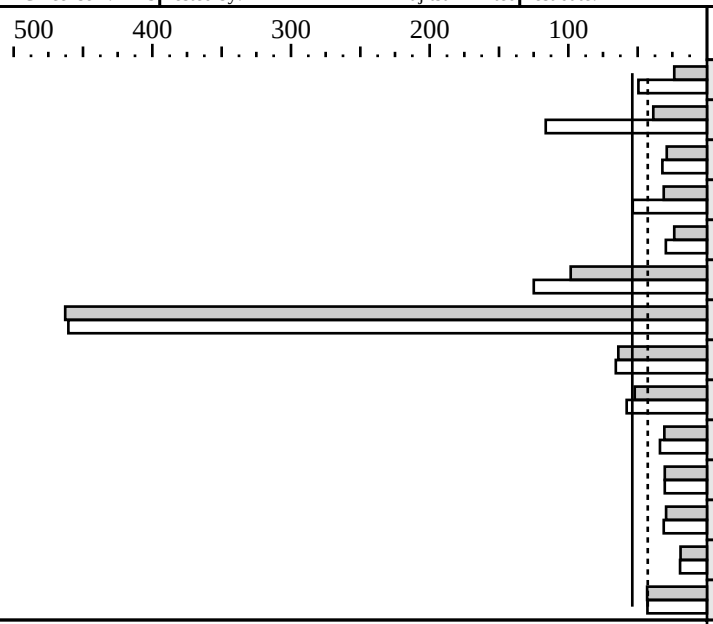
## Fujitsu Limited
## PRIMEPOWER450 (1320MHz)

SPECfp_rate2000 = 53.9

SPECfp_rate_base2000 = 42.7

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Dec-2003 | Hardware Avail: Feb-2004 | Software Avail: Dec-2003




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 4 | 314 | 23.6 | 4 | 150 | 49.5 |
| 171.swim | 4 | 371 | 38.7 | 4 | 124 | 116 |
| 172.mgrid | 4 | 288 | 29.0 | 4 | 260 | 32.2 |
| 173.applu | 4 | 312 | 31.2 | 4 | 182 | 53.5 |
| 177.mesa | 4 | 275 | 23.6 | 4 | 219 | 29.7 |
| 178.galgel | 4 | 137 | 98.3 | 4 | 108 | 125 |
| 179.art | 4 | 26.1 | 463 | 4 | 26.2 | 461 |
| 183.equake | 4 | 94.3 | 64.0 | 4 | 91.7 | 65.8 |
| 187.facerec | 4 | 169 | 52.1 | 4 | 152 | 57.9 |
| 188.ammp | 4 | 332 | 30.8 | 4 | 301 | 33.9 |
| 189.lucas | 4 | 305 | 30.5 | 4 | 305 | 30.5 |
| 191.fma3d | 4 | 330 | 29.5 | 4 | 312 | 31.2 |
| 200.sixtrack | 4 | 268 | 19.1 | 4 | 263 | 19.4 |
| 301.apsi | 4 | 279 | 43.2 | 4 | 281 | 42.9 |

### Hardware

| | |
|---|---|
| CPU: | SPARC64 V |
| CPU MHz: | 1320 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 4 chips, 1 core/chip |
| CPU(s) orderable: | 1 to 4 (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: | 8192MB (512MB x 16) |
| Disk Subsystem: | 1 x 36.4GB SCSI (10000rpm) |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Solaris 8 2/02 with current patches (see notes) |
| Compiler: | Fujitsu Parallelnavi 2.1<br>Fujitsu Parallelnavi 2.3<br>Sun ONE Studio 8<br>Sun Performance Library 8 |
| File System: | ufs |
| System State: | multi user |

## Notes/Tuning Information

```
FDO: (for Parallelnavi 2.1 & 2.3)
fdo_pre0=rm -rf ‘pwd‘/*.f.d
PASS1=-Kpg
PASS2=-Kpu
FDO: (for Sun ONE Studio 8)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback

Floating point base flags:
(using Fortran compiler of Sun ONE Studio 8)
-fast -xtarget=ultra3 -lprism32 FDO
(using C compiler of Sun ONE Studio 8)
-fast -xtarget=ultra3 -xipo=2 ONESTEP=yes FDO

Floating point peak flags:
```

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## Notes/Tuning Information (Continued)

```
(using Fortran compiler of Parallelnavi 2.1)
191.fma3d:    -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -Am
              -x dir=./ -x55 -Kpreex,prefetch_infer,prefetch=4 FDO

(using Fortran compiler of Parallelnavi 2.3)
168.wupwise:  -fs -Kfast_GP2=2,largepage -O5
              -x dir=./ -Kpreex,prefetch_infer,preschedule_length=17 FDO
172.mgrid:    -fs -Kfast_GP2=2,largepage,GREG_SYSTEM
              -Kpreex,prefetch_line=6,commonpad=144,alignc=64 FDO

(using Fortran compiler of Sun ONE Studio 8)
171.swim:     -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xpad=common:1660 -xprefetch=latx:2.6
              -Qoption cg -Qiselect-funcalign=64
              -Qoption iropt -Ainline:cs=700,Atile:skewp:b10 -lprism32
173.applu:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plus -xipo=2 -xprefetch=latx:0.8
              -Qoption cg -Qiselect-funcalign=64
              -Qoption iropt -Aujam:inner=g ONESTEP=yes FDO
178.galgel:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plusa -xchip=ultra2e -xipo=2 -xprefetch=latx:0.8
              -Qoption cg -Qiselect-funcalign=64
              -Qoption iropt -Addint:sf=9 -lprism32 -xlic_lib=sunperf
        RM_SOURCES=lapak.f90 ONESTEP=yes FDO
187.facerec:  -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plus -xprefetch_level=1 -xprefetch=latx:1.6
              -Qoption cg -Qiselect-funcalign=64 -lprism32 ONESTEP=yes FDO
189.lucas: basepeak=yes
200.sixtrack: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xipo=2 -lprism32 ONESTEP=yes FDO
301.apsi:     -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plus -xchip=ultra2 -xipo=2 -xprefetch=latx:2.4
              -lprism32 ONESTEP=yes FDO

(using C compiler of Sun ONE Studio 8)
177.mesa:     -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xchip=ultra2 -xalias_level=strong -xipo=2
              -xrestrict -Wc,-Qgsched-T4,-Qgsched-trace_late=1,
              -Qiselect-funcalign=64,-Qms_pipe+unoovf ONESTEP=yes FDO
179.art:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plusa -xalias_level=std -xipo=2
              -Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO
183.equake:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plus -xalias_level=strong -xdepend -xprefetch=latx:1.2
              -W2,-Amemopt:arrayloc,-whole -Wc,-Qiselect-funcalign=64,
              -Qms_pipe-pref,-Qlp=1-av=512-t=6-fa=1-fl=1 -lprism32 -lmopt -lm
             ONESTEP=yes FDO
188.ammp:     -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xalias_level=std -xchip=ultra3 -xdepend -xipo=2
              -xprefetch=latx:2.6 -xrestrict -Wc,-Qiselect-funcalign=64
              -lprism32 ONESTEP=yes FDO

Portability:
178.galgel:   -e -fixed

System Tunables:
```

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## Notes/Tuning Information (Continued)

```
(for /etc/system)
      set consistent_coloring=1
      set shmsys:shminfo_shmmax=2147483648, set shmsys:shmmni=256,
      set shmsys:shminfo_shmseg=400, set shmsys:shmmin=1
      set tune_t_fsflushr = 86400
      set autoup = 86400
(for /etc/opt/FJSVpnrm/lpg.conf)
      TSS=1024M, SHMSEGSIZE=256M
Shell Environments:
      Stack size set to unlimited via "ulimit -s unlimited"
      LD_LIBRARY_PATH="/opt4/SUNWspro/prod/lib/v8plusb"
      PRISM_HEAP=268435456
      PRISM_MODE=2

Sun ONE Studio 8, posted at URL http://wwws.sun.com/software/sundev/suncc/
was used for this submission.
All patches for Solaris 8 posted at
http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_8_SPARC_SunOS_5.8
as of date 2003/12/17 were applied: 108434-13, 108435-13, 111697-04, 111721-04.
Processes were bound to CPUs using "submit=pbind"
```