## CFP2000 Result

**Fujitsu Limited**  
**PRIMEPOWER250 (1100MHz)**  

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<th>Reference Time</th>
<th>Base Runtime</th>
<th>Base Ratio</th>
<th>Runtime</th>
<th>Ratio</th>
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<td>1600</td>
<td>365</td>
<td>439</td>
<td>163</td>
<td>984</td>
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<tr>
<td>171.swim</td>
<td>3100</td>
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<td>1351</td>
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<td>172.mgrid</td>
<td>1800</td>
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<td>794</td>
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<td>173.applu</td>
<td>2100</td>
<td>312</td>
<td>673</td>
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<td>177.mesa</td>
<td>1400</td>
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<td>178.galgel</td>
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<td>179.art</td>
<td>2600</td>
<td>42.7</td>
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<td>1300</td>
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<td>188.ammp</td>
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<td>406</td>
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<td>189.lucas</td>
<td>2000</td>
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<td>933</td>
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<td>915</td>
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<td>191.fma3d</td>
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<td>200.sixtrack</td>
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<td>301.apsi</td>
<td>2600</td>
<td>359</td>
<td>725</td>
<td>359</td>
<td>725</td>
</tr>
</tbody>
</table>

### Hardware
- **CPU:** SPARC64 V  
- **CPU MHz:** 1100  
- **FPU:** Integrated  
- **CPU(s) enabled:** 1 core, 1 chip, 1 core/chip  
- **CPU(s) orderable:** 1 to 2 (increments of 1)  
- **Parallel:** None  
- **Primary Cache:** 128KBI+128KBD on chip  
- **Secondary Cache:** 1MB(I+D) on chip  
- **L3 Cache:** None  
- **Other Cache:** None  
- **Memory:** 8192MB  
- **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  
- **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)  
  
  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 FDO ONESTEP=yes  

- **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,alignnc=64 FDO
### Notes/Tuning Information (Continued)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Options and Parameters</th>
</tr>
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<tbody>
<tr>
<td>178.galgel</td>
<td>`-fs -Kfast_GP2=2,largpage,GREG_SYSTEM -x dir=./'</td>
</tr>
<tr>
<td>189.lucas</td>
<td>`-fs -Kfast_GP2=2,largpage,GREG_SYSTEM -O5'</td>
</tr>
<tr>
<td>191.fma3d</td>
<td>`-fs -Kfast_GP2=2,largpage,GREG_SYSTEM -x dir=./ -x55'</td>
</tr>
<tr>
<td>171.swim</td>
<td>`-fast -xchip=ultra3cu -xcache=128/64/2:1024/64/2 -xarch=v8plusb</td>
</tr>
<tr>
<td></td>
<td>`-xpad=common:4002 -xprefetch=latx:2.2'</td>
</tr>
<tr>
<td>173.applu</td>
<td>`-fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb'</td>
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<tr>
<td></td>
<td>`-xipo=2 -xprefetch=latx:0.6 FDO ONESTEP=yes'</td>
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<tr>
<td>187.facerce:</td>
<td>`-xO5 -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb'</td>
</tr>
<tr>
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<td>`-xprefetch=yes-xprefetch_level=1 -xprefetch=latx:2.0 -xvector=no -xdepend -ftrap=%none'</td>
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<td>200.sixtrack:</td>
<td>`-fast -xchip=ultra3 -xcache=128/64/2:1024/64/2 -xarch=v8plusb'</td>
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<td>`-xipo=2 -lprism32 FDO ONESTEP=yes'</td>
</tr>
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</table>

(Using FORTRAN90 compiler of Sun ONE Studio 8 EA2)

### Portability:

#### Base:

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

#### Peak:

178.galgel: `-Am -Fixed (for Parallelnavi 2.1)`

### Note:

- System Tunables: (for `/etc/system`)
  - `consistent_coloring=1`,
  - `shmsys:shminfo_shmax=2147483648`, `shmsys:shminfo_shmmni=256`,
  - `shmsys:shminfo_shmseg=400`, `shminfo_shmmin=1`
  - `set tune_t_fasflushr = 86400`
  - `set autoup = 86400`

(For `/etc/opt/FJSVpnrm/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 system console).

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.
Fujitsu Limited
PRIMEPOWER250 (1100MHz)

SPECfp2000 = 1030
SPECfp_base2000 = 866

Notes/Tuning Information (Continued)

Sun ONE Studio 8 (final) will ship May-2003.
All patches for Solaris8 posted at
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.