



CFP2000 Result

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Fujitsu Limited
PRIMEPOWER900 (1890MHz)

SPECfp_rate2000 = 146

SPECfp_rate_base2000 = 111

SPEC license #: 19 Tested by: Fujitsu Limited Test date: May-2004 Hardware Avail: Sep-2004 Software Avail: Apr-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	197	75.4	8	113	131
171.swim	8	332	86.5	8	107	270
172.mgrid	8	228	73.2	8	215	77.6
173.applu	8	311	62.6	8	132	147
177.mesa	8	145	89.4	8	128	102
178.galgel	8	105	256	8	89.3	301
179.art	8	16.2	1493	8	15.6	1549
183.quake	8	85.7	141	8	84.5	143
187.facerec	8	186	94.9	8	122	145
188.amp	8	195	105	8	184	111
189.lucas	8	231	80.5	8	206	90.2
191.fma3d	8	246	79.3	8	246	79.3
200.sixtrack	8	200	51.0	8	189	54.1
301.apsi	8	256	94.4	8	211	114

Hardware

CPU: SPARC64 V
CPU MHz: 1890
FPU: Integrated
CPU(s) enabled: 8 cores, 8 chips, 1 core/chip
CPU(s) orderable: 1 to 16 (increments of 1)
Parallel: None
Primary Cache: 128KBI + 128KBD on chip
Secondary Cache: 3MB(I+D) on chip
L3 Cache: None
Other Cache: None
Memory: 32768MB
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)
Other Hardware: None

Software

Operating System: Solaris 9 4/04
Compiler: Fujitsu Parallelnavi 2.3 with patch 913221-03
Sun Studio 8
Sun Performance Library 8
File System: ufs
System State: multi user

Notes/Tuning Information

```
FDO: (for Parallelnavi 2.3)
fdo_pre0=rm -rf `pwd`/*.f.d
PASS1=-Kpg
PASS2=-Kpu
FDO: (for Sun 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 Parallelnavi 2.3)
-Kfast_GP2=3,prefetch_infer,GREG_SYSTEM -O5
(using C compiler of Sun 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 2.3)

```

168.wupwise: -Kfast_GP2=3,prefetch_infer,alignl=64,unroll=4,
             prefetch_cache_level=3 -O5 -x dir=./ FDO
172.mgrid:   -Kfast_GP2=2,GREG_SYSTEM -O4 -Kcommonpad=180,alignc=64
178.galgel:  -Kfast_GP2=2,GREG_SYSTEM,prefetch_infer,frecipro,
             commonpad=152,arraypad_const=11,alignl=64 -x dir=./ -O4 FDO
189.lucas:   -Kfast_GP2=3 -O5 -x dir=./ -Kunroll=2 FDO
191.fma3d:   basepeak=yes
200.sixtrack: -Kfast_GP2=3 -O4 -x dir=./ -Kunroll=3 -fs FDO

```

(using Fortran compiler of Sun Studio 8)

```

171.swim:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xpad=common:1660 -xprefetch=latx:2.6
             -Qoption cg -Qiselect-funcalign=64
             -Qoption iropt -Ainline:cs=700,Atile:skewp:b10
173.applu:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xipo=2 -xprefetch=latx:1.6
             -Qoption cg -Qlp=1-av=192-t=4-fa=1-fl=0,-Qms_pipe+prefolim=7
             -Qoption iropt -Aujam:inner=g ONESTEP=yes FDO
187.facerec: -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xarch=v8plus -xprefetch=latx:1.6 ONESTEP=yes FDO
301.apsi:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xipo=2 ONESTEP=yes FDO

```

(using C compiler of Sun Studio 8)

```

177.mesa:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xchip=ultra -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=128/64/2:4096/64/4
             -xalias_level=std -xarch=v8plusa -xipo=2 -xprefetch=latx:1.2
             -Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO
183.quake:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xalias_level=strong -xarch=v8plus -W2,-Amemopt:arrayloc,-whole
             -Wc,-Qiselect-funcalign=64,-Qms_pipe-pref,
             -Qlp=1-av=512-t=6-fa=1-fl=1 -lmopt -lm ONESTEP=yes FDO
188.ammp:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:4096/64/4
             -xalias_level=std -xipo=2 -xprefetch=latx:1.2 -xrestrict
             -Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO

```

Portability:

```

178.galgel(base&peak): -Am -Fixed
187.facerec(base):    -Am
191.fma3d(base):      -Am

```

System Tunables:

```

(for /etc/system)
set consistent_coloring=1
set tune_t_fsflushr=86400
set autoup=86400
set memscrub_period_sec=172800

```

Shell Environments:

```

Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=4M
MPSSSTACK=4M

```



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Notes/Tuning Information (Continued)

LD_PRELOAD=mpss.so.1

Processes were bound to CPUs using "submit=pbind".

Extended Interleave Mode enabled.

4 CPUs each on 2 system board. Unused CPUs have physically removed.

Sun Studio 8, posted at URL <http://www.sun.com/software/products/studio/> was used for this submission.

Model PRIMEPOWER850 and model PRIMEPOWER900 are electronically equivalent. This result was measured on model PRIMEPOWER900.