



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.quake	4	94.3	64.0	4	91.7	65.8
187.facerec	4	169	52.1	4	152	57.9
188.amp	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
Fujitsu Parallelnavi 2.3
Sun ONE Studio 8
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.quake: -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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```
(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/FJSVpnm/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://www.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"