CFP2000 Result

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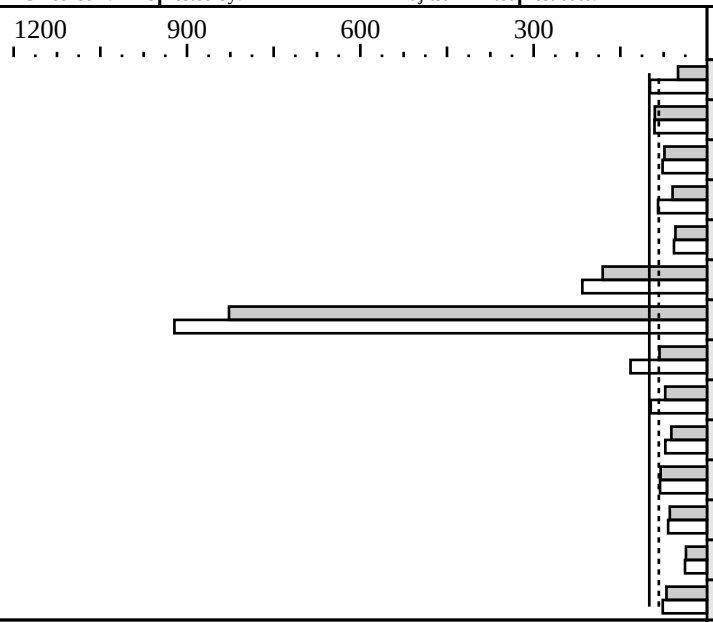
Fujitsu Limited
PRIMEPOWER900 (1350MHz)

SPECfp_rate2000 = 99.9

SPECfp_rate_base2000 = 83.4

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	296	50.1	8	150	98.7
171.swim	8	318	90.4	8	316	90.9
172.mgrid	8	227	73.7	8	217	76.9
173.applu	8	327	59.6	8	230	84.7
177.mesa	8	238	54.6	8	227	57.1
178.galgel	8	149	181	8	125	216
179.art	8	29.2	827	8	26.2	922
183.equake	8	147	82.2	8	91.2	132
187.facerec	8	244	72.3	8	181	97.4
188.ammp	8	331	61.7	8	283	72.1
189.lucas	8	231	80.2	8	228	81.3
191.fma3d	8	303	64.3	8	290	67.3
200.sixtrack	8	280	36.4	8	268	38.1
301.apsi	8	344	70.1	8	315	76.6

Hardware

CPU:	SPARC64 V
CPU MHz:	1350
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:	2MB(I+D) on chip
L3 Cache:	None
Other Cache:	None
Memory:	64GB
Disk Subsystem:	1 x 36.4GB SCSI (10000rpm)
Other Hardware:	System with one PPAR, see Notes

Software

Operating System:	Solaris8 2/02 with current patches (see notes)
Compiler:	Fujitsu Parallelnavi 2.1 with patch 912528-02 Sun ONE Studio 7 with current patches (see notes) Sun Performance Library 7
File System:	ufs
System State:	multi user

Notes/Tuning Information

```
FDO: (for Parallelnavi 2.1)
   fdo_pre0=rm -rf ‘pwd‘/*.*.d
   PASS1=-Kpg    PASS2=-Kpu
FDO: (for Sun ONE Studio 7)
   fdo_pre0=rm -rf ‘pwd‘/../feedback.profile ‘pwd‘/SunWS_cache
   PASS1=-xprofile=collect:‘pwd‘/../feedback
   PASS2=-xprofile=use:‘pwd‘/../feedback
Baseline:
(using Fortran compiler of Parallelnavi 2.1)
   -Kfast_GP2=2,prefetch_infer,largepage -O5
(using C compiler of Sun ONE Studio 7)
   -fast -xtarget=ultra2 -xipo=2 FDO
Peak:
(for Parallelnavi 2.1)
168.wupwise: -fs -Kfast_GP2=2,largepage -O5 -x dir=../../src
    -Kpreex,prefetch_infer,alignl=64,preschedule_length=17 FDO
171.swim: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -O5
```

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Notes/Tuning Information (Continued)

-Kpreex,commonpad=168,prefetch_cache_level=3,prefetch_line_L2=6,
prefetch_line_L2=6,prefetch_line=6,frecipro,prefetch=4 FDO
172.mgrid: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -Kpreex,prefetch_line=6,commonpad=144,alignc=64 FDO
178.galgel: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM
-Kpreex,prefetch_infer,prefetch=4,frecipro,unroll=2,commonpad=152,arraypad_const=11,alignl=64
-x dir=../../src -KFMADD -SSL2 FDO RM_SOURCES=lapak.f90
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=../../src -x55
-Kpreex,prefetch_infer,prefetch=4 FDO
200.sixtrack: -fs -Kfast_GP2=2,largepage,GREG_SYSTEM -O5
-Kunroll=2,preex,prefetch_line=8,frecipro,novfunc,preschedule_length=27 FDO
(using FORTRAN90 compiler of Sun ONE Studio 7)
173.applu: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plusb
-Qoption iropt -Adata_access,-Mt7000,-Mm14000,-Mr40000,-Ma400,-whole
-xregs=syst -Qoption iropt -Rscalarrep,-MR -Qoption cg
-Qlp=1-av=128-t=2-fa=1-fl=1 -Qoption f90comp -O3 -Qoption cg
-Qgsched-trace_late=1,-Qgsched-T4 -stackvar ONESTEP=yes
187.facerec: -xO5 -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plus
-xprefetch=yes -xprefetch_level=1 -xvector=no -xdepend -ftrap=%none
-fns -fsimple=2 -lprism32 FDO ONESTEP=yes
301.apsi: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plus
-Qoption iropt -Mt400 -xdepend -xregs=syst -lprism32 FDO ONESTEP=yes

(using C compiler of Sun ONE Studio 7)
177.mesa: -fast -xchip=ultra2 -xcache=128/64/2:2048/64/4 -xarch=v8plusb -xcrossfile
-Wc,-Qgsched-trace_late=1,-Qgsched-T4 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=128/64/2:2048/64/2 -xarch=v8plusb
-xcrossfile -xrestrict -xalias_level=strong -xdepend -xprefetch -lprism32 FDO ONESTEP=yes

Portability:
178.galgel: -Am -Fixed (for Parallelnavi 2.1)
187.facerec: -Am (for Parallelnavi 2.1)
191.fma3d: -Am (for Parallelnavi 2.1)

Note:
System Tunables: (for /etc/system)
consistent_coloring=1,
shmsys:shminfo_shmmax=8589934592, shmsys:shminfo_shmmni=256,
shmsys:shminfo_shmseg=400,shminfo_shmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=4096M, SHMSEGSIZE=256M
Shell Environments:
LD_LIBRARY_PATH="/opt/SUNWspro/prod/lib/v8plusb"
PRISM_HEAP=268435456
PRISM_MODE=2
Feedback directed optimization (FDO) was used except Fortran baseline, 173.applu(peak) and 301.apsi(peak).
Stack size set to unlimited via "ulimit -s unlimited"
All patches of Sun ONE Studio 7 posted at URL http://access1.sun.com/sundev/s1s7-patches.html

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Notes/Tuning Information (Continued)

as of date 2003/02/22 were applied: 111704-06, 111706-04, 111709-02, 111715-04, 111718-01, 111705-03, 111708-03, 111714-04, 111716-02, 111723-02.
All patches for Sun_ONE_Studio_7_SPARC_SunOS_5.8 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 2003/02/22 were applied: 108434-10, 108435-10, 111697-04, 111721-02.
System configured at installation time in PPAR(Physical PARtitioning) mode.
One partition used, extending over the whole system.
4 CPUs and 32 GB installed on each of the two system boards.