CFP2000 Result

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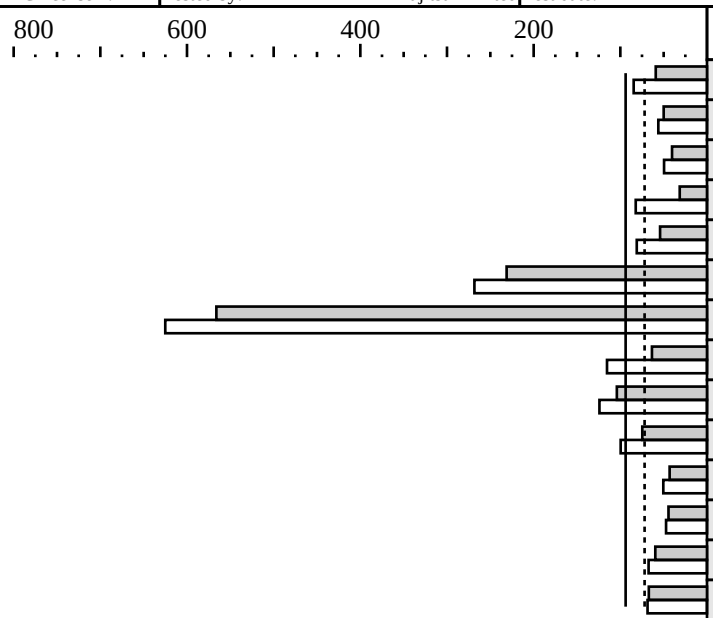
Fujitsu Siemens Computers
PRIMEPOWER800/1000/2000 (788MHz)

SPECfp_rate2000 = 93.9

SPECfp_rate_base2000 = 72.0

SPEC license #: 22 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Sep-2002 | Software Avail: May-2002



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	16	502	59.1	16	351	84.6
171.swim	16	1151	50.0	16	1024	56.2
172.mgrid	16	828	40.3	16	674	49.5
173.applu	16	1239	31.5	16	474	82.2
177.mesa	16	480	54.1	16	321	81.0
178.galgel	16	233	231	16	201	268
179.art	16	85.2	566	16	77.2	625
183.equake	16	380	63.5	16	209	115
187.facerec	16	339	104	16	284	124
188.ammp	16	547	74.7	16	410	99.6
189.lucas	16	861	43.1	16	736	50.4
191.fma3d	16	877	44.4	16	825	47.2
200.sixtrack	16	342	59.6	16	303	67.4
301.apsi	16	719	67.1	16	703	68.6

Hardware

CPU:	SPARC64 GP
CPU MHz:	788
FPU:	Integrated
CPU(s) enabled:	16 cores, 16 chips, 1 core/chip
CPU(s) orderable:	4 to 16/4 to 32/8 to 128
Parallel:	None
Primary Cache:	128KBI+128KBD on chip
Secondary Cache:	8MB(I+D) off chip, per CPU
L3 Cache:	None
Other Cache:	None
Memory:	16GB
Disk Subsystem:	1 x 36GB, 1 x 18GB SCSI (10000rpm)
Other Hardware:	Ethernet

Software

Operating System:	Solaris 8 2/02 with patches 108434-07 and 108435-07.
Compiler:	Fujitsu Parallelnavi 1.0.2 with patches 911403-01 and 911746-01. Sun ONE Studio 7 with current patches (see notes) Sun Performance Library 7
File System:	ufs
System State:	multi user

Notes/Tuning Information

```
FDO: (Parallelnavi 1.0.2)
    fdo_pre0=rm -rf ‘pwd‘/*.*.d
    PASS1=-Kpg    PASS2=-Kpu
FDO: (Sun ONE Studio 7)
    fdo_pre0=rm -rf ‘pwd‘/../feedback.profile
    PASS1=-xprofile=collect:‘pwd‘/../feedback
    PASS2=-xprofile=use:‘pwd‘/../feedback
Baseline :
(using Fortran compiler of Sun ONE Studio 7)
-fast -xtarget=ultra3 -lprism32 FDO

(using C compiler of Sun ONE Studio 7)
-fast -xipo=2 -xdepend FDO

Peak:
(using Fortran compiler of Parallelnavi 1.0.2)
 168.wupwise: -Kfast_GP=2,prefetch=4,nounroll -x dir=‘pwd‘/../../src
```

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Notes/Tuning Information (Continued)

-fs -lssl2mtfma FDO ONESTEP=yes
171.swim: -Kfast_GP=2,GREG,preex,ilfunc,prefetch=3,commonpad=152,prefetch_iteration=3,unroll=2,nogs,frecipro
-O4 -dn -fs
172.mgrid: -Kfast_GP=2,preex,GREG,commonpad=144,unroll=3,prefetch=3
-O4 -dn -fs
178.galgel: -Kfast_GP=2,GREG,largepage,preex,unroll=3,prefetch_iteration=2,commonpad=24
-O4 -lssl2mtfma -fs FDO
RM_SOURCES=lapak.f90
200.sixtrack: -Kfast_GP=2,GREG,noprefetch,unroll=4,frecipro -dn
301.apsi: -Kfast_GP=2,GREG,preex,ilfunc,largepage,unroll=2 -O4 -fs

(using FORTRAN77 compiler of Sun ONE Studio 7)
173.applu: -fast -xtarget=ultra3 -Qoption iropt -Adata_access,-Mt7000,-Mm14000,-Mr40000,-Ma400,-whole
-xregs=syst -Qoption iropt -Rscalarrep,-MR -Qoption cg
-Qlp=1-av=192-fa=1 -Qoption f90comp -O3 -stackvar ONESTEP=yes

(using FORTRAN90 compiler of Sun ONE Studio 7)
187.facerec: -fast -xarch=v9 FDO ONESTEP=yes
189.lucas: -fast -xtarget=ultra3 -xregs=syst -xipo=2
-lprism32 -lmopt -lm FDO ONESTEP=yes
191.fma3d: -fast -xarch=v8plusb -xcrossfile -stackvar -xdepend
-xprefetch -Qoption cg -Qlp=1-av=256-t=3-fa=1 FDO ONESTEP=yes

(using C compiler of Sun ONE Studio 7)
177.mesa: -fast -xtarget=ultra2 -xcrossfile -xrestrict -xalias_level=strong
-xregs=syst -Wc,-Qgsched-trace_late=1,-Qgsched-trace_spec_load=1
-xarch=v8plus -W2,-Amemopt -xsafe=mem -dn
FDO ONESTEP=yes
179.art: -fast -xtarget=ultra3 -xipo=2 -xalias_level=strong -xregs=syst -dn
FDO ONESTEP=yes
183.equake: -fast -xtarget=ultra3 -xalias_level=std -xdepend
-W2,-whole,-Amemopt:arrayloc,-crit -xprefetch -Wc,-Qms_pipe-pref,-Qlp=1-av=256-t=4-fa=1-fl=1 -lprism32 -lmopt -lm
FDO ONESTEP=yes
188.ammp: -fast -xtarget=ultra3 -xcrossfile -xrestrict
-xalias_level=strong -xdepend -xprefetch
-Wc,-Qiselect-funcalign=64 -lprism32 FDO ONESTEP=yes

Portability:
(for Sun ONE Studio 7)
178.galgel: -e -fixed
(for Parallelnavi 1.0.2)
178.galgel: -Am -Fixed

Note:
System Tunables: (for /etc/system)
consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
shmsys:shminfo_shmmax=1477846784, shmsys:shminfo_shmmni=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=8192M, SHMSEGSIZE=256M
Shell Environments:
LD_LIBRARY_PATH="/usr/lib:/opt/SUNWspro/lib/v8plusb:/opt/SUNWspro/prod/lib/v8plusb:/opt/FSUNf90/lib"
LD_LIBRARY_PATH_64="/usr/lib/64:/opt/SUNWspro/lib/v9:/opt/SUNWspro/prod/lib/v9"
PRISM_HEAP=268435456
PRISM_MODE=2
Feedback directed optimization was used for all baseline benchmarks and peak benchmarks
except following peak benchmarks: 171.swim, 172.mgrid, 178.galgel, 200.sixtrack, 301.apsi.

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Notes/Tuning Information (Continued)

All patches of Sun ONE Studio 7 posted at URL http://access1.sun.com/sundev/s1s7-patches.html
as of date 2002/6/4 were applied: 111704-01, 111705-01, 111706-01,
111708-01, 111709-01, 111715-01, 111716-01.