CFP2000 Result

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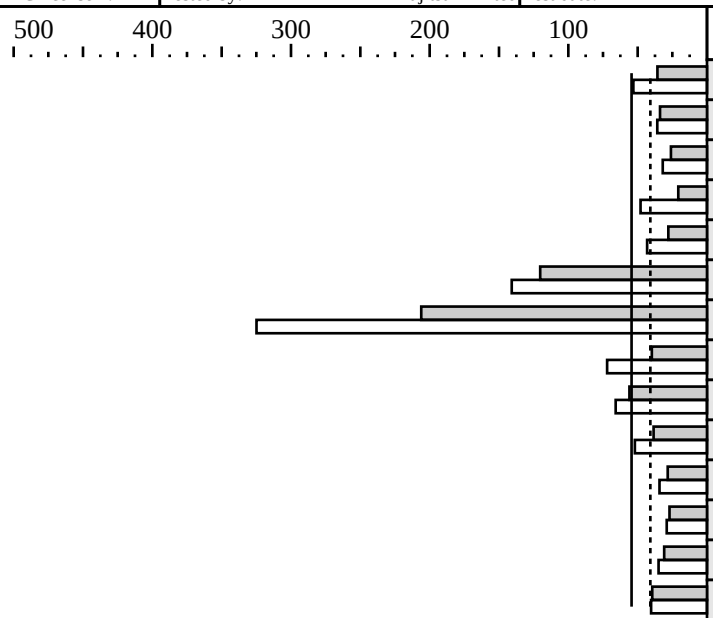
Fujitsu Siemens Computers PRIMEPOWER650 (810MHz)

SPECfp_rate2000 = 54.4

SPECfp_rate_base2000 = 40.9

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	8	415	35.7	8	280	53.1
171.swim	8	849	33.9	8	802	35.8
172.mgrid	8	642	26.0	8	523	31.9
173.applu	8	941	20.7	8	407	47.9
177.mesa	8	466	27.9	8	301	43.2
178.galgel	8	224	120	8	191	141
179.art	8	117	206	8	74.3	325
183.equake	8	303	39.8	8	167	72.0
187.facerec	8	315	55.9	8	268	65.9
188.ammp	8	530	38.5	8	392	52.0
189.lucas	8	655	28.3	8	542	34.3
191.fma3d	8	721	27.0	8	671	29.0
200.sixtrack	8	331	30.9	8	292	34.9
301.apsi	8	611	39.5	8	599	40.3

Hardware

CPU:	SPARC64 GP
CPU MHz:	810
FPU:	Integrated
CPU(s) enabled:	8 cores, 8 chips, 1 core/chip
CPU(s) orderable:	2 to 8
Parallel:	None
Primary Cache:	128KBI+128KBD on chip
Secondary Cache:	8MB(I+D) off chip, per CPU
L3 Cache:	None
Other Cache:	None
Memory:	32GB
Disk Subsystem:	36GB
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 Parallelnavi 1.0.2)
-Kfast_GP=2,largepage -O4 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 -fs
172.mgrid: -Kfast_GP=2,preex,GREG,commonpad=144,unroll=3,largepage,prefetch=3
-O4 -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,largepage,frecipro -fs
301.apsi: -Kfast_GP=2,GREG,preex,ilfunc,largepage,unroll=2 -O4 -fs FDO

(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
-lprism32 FDO
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 Parallelnavi 1.0.2)
178.galgel: -Am -Fixed
187.facerec: -Am
191.fma3d: -Am

Note:
System Tunables: (for /etc/system)
consistent_coloring=1, tune_t_fsflushr=86400, autoup=86400,
shmsys:shminfo_shmmax=8589934592, shmsys:shminfo_shmmni=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=4096M, 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, 173.applu, 200.sixtrack.

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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.
Extended Interleave Mode enabled.