CFP2000 Result

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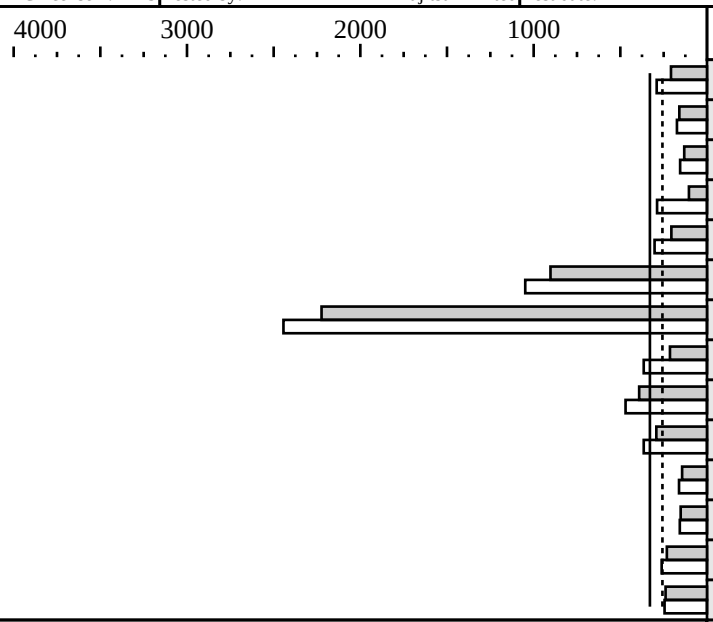
Fujitsu Limited
PRIMEPOWER800/1000/2000 (788MHz)

SPECfp_rate2000 = 329

SPECfp_rate_base2000 = 257

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Aug-2002 | Hardware Avail: Aug-2002 | Software Avail: May-2002



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	64	572	208	64	409	290
171.swim	64	1442	160	64	1328	173
172.mgrid	64	1018	131	64	862	155
173.applu	64	1496	104	64	541	288
177.mesa	64	506	206	64	344	302
178.galgel	64	238	903	64	205	1049
179.art	64	86.8	2224	64	79.0	2444
183.equake	64	452	214	64	264	365
187.facerec	64	360	391	64	300	470
188.ammp	64	559	292	64	447	365
189.lucas	64	1034	144	64	920	161
191.fma3d	64	1027	152	64	994	157
200.sixtrack	64	353	232	64	312	262
301.apsi	64	808	239	64	788	245

Hardware

CPU:	SPARC64 GP
CPU MHz:	788
FPU:	Integrated
CPU(s) enabled:	64 cores, 64 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 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,prefetch=3
-O4 -dn -fs
178.galgel: -Kfast_GP=2,GREG,ilfunc,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,ilfunc,preex,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 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=1477846784, shmsys:shminfo_shmmni=1024, shmsys:shminfo_shmseg=1024,shminfo_shmmin=1
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=32768M, 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

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Notes/Tuning Information (Continued)

except following peak benchmarks: 171.swim, 172.mgrid, 173.applu, 200.sixtrack.
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.