CFP2000 Result

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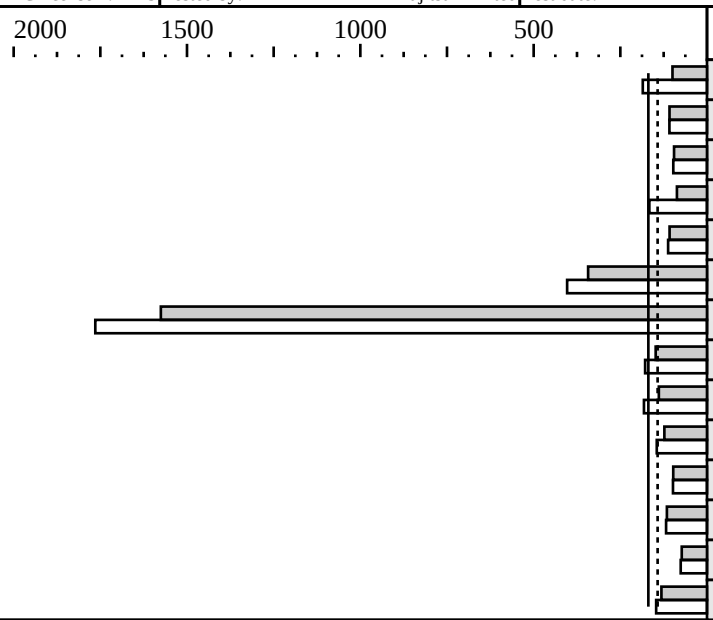
Fujitsu Limited
PRIMEPOWER900 (1350MHz)

SPECfp_rate2000 = 169

SPECfp_rate_base2000 = 142

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	16	298	99.6	16	160	185
171.swim	16	532	108	16	531	108
172.mgrid	16	352	95.0	16	344	97.2
173.applu	16	449	86.7	16	234	166
177.mesa	16	241	108	16	232	112
178.galgel	16	157	343	16	133	403
179.art	16	30.6	1575	16	27.3	1765
183.equake	16	163	148	16	135	178
187.facerec	16	254	139	16	194	182
188.ammp	16	332	123	16	282	145
189.lucas	16	381	97.4	16	378	98.1
191.fma3d	16	337	116	16	330	118
200.sixtrack	16	280	72.8	16	269	75.8
301.apsi	16	367	131	16	329	147

Hardware

CPU:	SPARC64 V
CPU MHz:	1350
FPU:	Integrated
CPU(s) enabled:	16 cores, 16 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
301.apsi: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plus
-Qoption iropt -Mt400 -xdepend -xregs=syst -lprism32 FDO 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

(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.
8 CPUs and 32 GB installed on each of the two system boards.