



CFP2000 Result

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Sun Microsystems
Sun Ultra 40

SPECfp_rate2000 = 85.0

SPECfp_rate_base2000 = 76.5

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Feb-2006 Hardware Avail: Mar-2006 Software Avail: Jan-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	67.8	110	4	63.5	117
171.swim	4	90.3	159	4	81.7	176
172.mgrid	4	161	51.9	4	157	53.3
173.applu	4	103	94.7	4	94.4	103
177.mesa	4	93.4	69.6	4	73.1	88.9
178.galgel	4	119	113	4	80.0	168
179.art	4	172	70.2	4	178	67.8
183.quake	4	107	56.1	4	101	60.0
187.facerec	4	83.6	105	4	56.9	155
188.amp	4	160	63.7	4	161	63.5
189.lucas	4	165	56.2	4	163	56.8
191.fma3d	4	146	66.7	4	140	69.4
200.sixtrack	4	139	36.8	4	135	37.9
301.apsi	4	127	94.8	4	120	101

Hardware

CPU: AMD Opteron (TM) 285
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 (order by # of chips)
Parallel: No
Primary Cache: 64KBI + 64KBD (on chip) per core
Secondary Cache: 1024KB (I+D) (on chip) per core
L3 Cache: N/A
Other Cache: N/A
Memory: 16GB (8x2GB, PC3200 CL3 DDR ECC Registered SDRAM)
Disk Subsystem: SATA,205GB,7200 RPM
Other Hardware: None

Software

Operating System: Solaris 10 1/06
Compiler: Sun Studio 11
File System: ufs
System State: Multi-user

Notes/Tuning Information

Compiler invocation:

C: cc
F90: f90
F77: f90

FDO: PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback
fdo_pre0: rm -rf ./feedback.profile

Floating point base flags:

F90: -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 ONESTEP=yes
C: -fast -xcrossfile -xalias_level=std -xpagesize=2m ONESTEP=yes

Floating point peak flags:

ONESTEP=yes for all benchmarks

168.wupwise: -fast -xautopar -xpad=common:3969 -xipo=2 -xarch=amd64 -xprefetch_level=3 -xpagesize_heap=2m



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Notes/Tuning Information (Continued)

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171.swim:      -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt
              -Atile:skewp,-Ainline:cs=700 -xarch=amd64 -Qoption ube_ipa -inl_alt
              -xpagesize_stack=2m
172.mgrid:    -fast -xautopar -stackvar -xpad=common:900 -xipo=2 -xarch=amd64 -xprefetch_level=3
              -xvector -xpagesize=2m -Qoption ld -M,/usr/lib/ld/map.bssalign
173.applu:    -fast -xautopar -unroll=5 -stackvar -x04 -xipo=2 -xprefetch_level=3 -xarch=amd64a
              -qoption iropt -Rloop_dist -xpagesize_heap=2m
177.mesa:     -fast -xautopar -x04 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO
178.galgel:   -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -xcrossfile -xpagesize_heap=2m -xprefetch_level=3 -xvector=simd -xarch=amd64
              RM_SOURCES=lapak.f90
              EXTRALIBS=-xlic_lib=sunperf
179.art:      -fast -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m
183.earthquake: -fast -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m -lmopt -lm +FDO
187.facerec:  -fast -x04 -xipo=2 -xprefetch_level=3 -xpagesize=2m
              RM_SOURCES=cfft.f90 cffti.f90 cfftf.f90
              EXTRALIBS=-xlic_lib=sunperf
188.ammp:     -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -x04 -xipo=2 -xarch=amd64a -xalias_level=std -xpagesize_heap=2m -lmopt -lm
189.lucas:    -fast -Qoption ube_ipa -inl_alt -xipo=2 -xarch=amd64 -xprefetch_level=3
191.fma3d:    -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -unroll=5 -fsimple=1 -xipo=2
              -xprefetch_level=3 -xarch=amd64 -xpagesize_heap=2m +FDO
200.sixtrack: -fast -xipo=2 -O -xprefetch_level=3 -xarch=amd64
              -xpagesize_heap=2m -Qoption ld -M,/usr/lib/ld/map.bssalign +FDO
301.apsi:     -fast -x04 -xipo=2 -xprefetch_level=3 -xarch=amd64a -xpagesize=2m

```

Portability:
178.galgel: -fixed

Shell Environments:
Stack size set to unlimited via "ulimit -s unlimited"

Kernel Parameters (/etc/system):
autoup=900
tune_t_fsflushr=1

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used