



CFP2000 Result

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Sun Microsystems
Sun Fire V40z

SPECfp_rate2000 = 138

SPECfp_rate_base2000 = 117

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Apr-2005 Hardware Avail: Jun-2005 Software Avail: Apr-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	76.4	194	8	73.7	201
171.swim	8	269	107	8	105	274
172.mgrid	8	166	100	8	162	103
173.applu	8	176	111	8	170	115
177.mesa	8	110	118	8	92.3	141
178.galgel	8	136	198	8	97.5	276
179.art	8	208	116	8	214	113
183.quake	8	121	99.9	8	113	107
187.facerec	8	99.7	177	8	70.2	251
188.amp	8	204	100.0	8	211	96.8
189.lucas	8	202	91.8	8	186	99.6
191.fma3d	8	178	109	8	163	119
200.sixtrack	8	181	56.3	8	172	59.4
301.apsi	8	161	150	8	146	165

Hardware

CPU: AMD Opteron (TM) 875
CPU MHz: 2200
FPU: Integrated
CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
CPU(s) orderable: 2,4 (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 SDRAM ECC Registered)
Disk Subsystem: SCSI, 73GB, 10K RPM
Other Hardware: None

Software

Operating System: Solaris 10
Compiler: Sun Studio 10 with Patch-02 patches
File System: ufs
System State: Multi-user

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: 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 -xpad=common:3969 -xipo=2 -xarch=amd64 -xprefetch_level=3 -xpagesize_heap=2m



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Notes/Tuning Information (Continued)

171.swim: -fast -xpad=common:3969 -xipo=2 -xprefetch_level=3 -Qoption iropt
-Atile:skewp,-Ainline:cs=700 -xarch=amd64 -Qoption ube_ipa -inl_alt
-xpagesize_stack=2m

172.mgrid: -fast -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 -stackvar -x04 -xipo=2 -xprefetch_level=3 -xarch=amd64 -Qoption iropt
-Aujam:inner=g -xpagesize_heap=2m

177.mesa: -fast -x04 -xipo=2 -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO

178.galgel: -fast -stackvar -x04 -xipo=2 -xprefetch_level=3 -xvector=simd -xarch=amd64
-xpagesize_heap=2m -Qoption ld -M,/usr/lib/ld/map.bssalign
RM_SOURCES=lapak.f90
EXTRALIBS=-xlic_lib=sunperf

179.art: -fast -xipo=2 -xarch=amd64 -xalias_level=std -xpagesize=2m -Xc
-M /usr/lib/ld/map.bssalign -lm

183.quake: -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=cfftb.f90 cffti.f90 cfftf.f90
EXTRALIBS=-xlic_lib=sunperf

188.amp: -fast -x04 -xipo=2 -xarch=amd64 -xalias_level=std -xpagesize_heap=2m -lmopt -lm

189.lucas: -fast -xprefetch_level=3 -Qoption ld -M,/usr/lib/ld/map.bssalign -xpagesize_stack=2m

191.fma3d: -fast -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=amd64 -xpagesize=2m

Portability:

178.galgel: -e -fixed -DSPEC_CPU2000_LP64

Shell Environments:

Stack size set to unlimited via "ulimit -s unlimited"

Kernel Parameters (/etc/system):

autoup=900
tune_t_fsflushr=1

Patch-02 includes the following patches for Sun Studio 10 compiler, these can be downloaded from http://developers.sun.com/prodtech/cc/downloads/patches/ss10_patches.html as of 04/21/2005:

117831-02 C++
117837-02 C
117845-01 Debugger
117846-02 x86/x64 backend (codegen)

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used