CFP2000 Result

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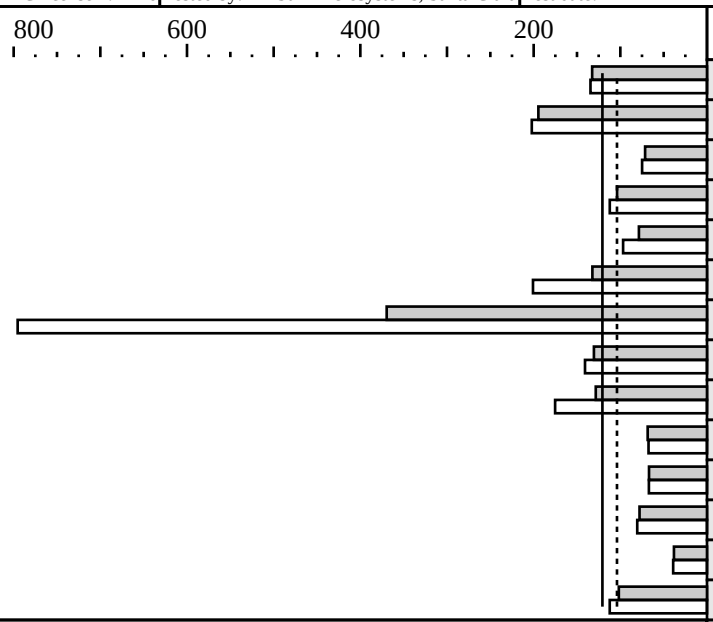
Sun Microsystems
Sun Ultra 40 M2

SPECfp_rate2000 = 121

SPECfp_rate_base2000 = 104

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Oct-2006 | Hardware Avail: Nov-2006 | Software Avail: Jul-2006



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	56.0	133	4	55.2	134
171.swim	4	73.9	195	4	71.1	202
172.mgrid	4	117	71.4	4	112	74.9
173.applu	4	93.9	104	4	86.9	112
177.mesa	4	82.7	78.6	4	67.1	96.8
178.galgel	4	102	132	4	67.0	201
179.art	4	32.6	370	4	15.2	795
183.equake	4	46.2	130	4	42.9	141
187.facerec	4	68.7	128	4	50.3	175
188.ammp	4	149	68.5	4	151	67.5
189.lucas	4	139	66.9	4	138	67.0
191.fma3d	4	125	77.9	4	121	80.5
200.sixtrack	4	134	38.1	4	131	39.0
301.apsi	4	119	102	4	107	112

Hardware

CPU:	AMD Opteron 2220SE
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
Parallel:	No
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	N/A
Other Cache:	N/A
Memory:	16 GB (8x2GB, DDR2-667 CL5 ECC REG, Dual Rank)
Disk Subsystem:	SATA, 160 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	Solaris 10 6/06
Compiler:	Sun Studio 11 with Patches
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

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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 -xipo=2 -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
 171.swim:      -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt
```

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Notes/Tuning Information (Continued)

-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 -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a
-qoption iropt -Rloop_dist -xpagesize_heap=2m

177.mesa: -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO

178.galgel: -fast -xcache=64/32/4:1024/64/4 -xipo=2 -xpagesize_heap=2m -xvector=simd -xarch=amd64 -xprefetch_level=3
RM_SOURCES=lapak.f90
EXTRA_LIBS=-xlic_lib=sunperf

179.art: -fast -xipo=2 -xalias_level=strong -xprefetch -Wd,-iropt-prof -xpagesize=2m +FDO

183.equake: -fast -Wd,-iropt-prof -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m -lmopt -lm +FDO

187.facerec: -fast -xO4 -xipo=2 -xprefetch_level=3 -xpagesize=2m
RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90
EXTRA_LIBS=-xlic_lib=sunperf

188.ammp: -fast -xcache=64/32/4:1024/64/4 -xO4 -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 -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 -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a -xpagesize=2m

Portability:
178.galgel: -fixed

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

The following patches were applied to Sun Studio 11 compiler:
120759-07 : x86/x64
121016-03 : x86 C
121020-03 : x86 F90
121018-03 : x86 C++

Processes were bound to CPUs using submit=pbind

Default BIOS setting was used