



CFP2000 Result

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Sun Microsystems
Sun Ultra 20 M2

SPECfp2000 = 3073

SPECfp_base2000 = 2601

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio
168.wupwise	1600	50.2	3190	48.4	3303
171.swim	3100	91.0	3406	91.0	3406
172.mgrid	1800	61.2	2941	61.2	2941
173.applu	2100	48.9	4291	48.9	4291
177.mesa	1400	82.0	1707	66.9	2093
178.galgel	2900	65.6	4420	55.5	5222
179.art	2600	26.8	9707	13.8	18810
183.quake	1300	37.3	3483	33.9	3837
187.facerec	1900	56.5	3363	40.8	4660
188.amp	2200	148	1491	148	1491
189.lucas	2000	101	1976	100	1997
191.fma3d	2100	105	1997	105	1997
200.sixtrack	1100	258	426	129	855
301.apsi	2600	118	2195	103	2523

Hardware

CPU: AMD Opteron (TM) 1220
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1
 Parallel: Yes
 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: 4GB (2x2GB, DDR2-667 CL5 ECC)
 Disk Subsystem: SATA,500GB,7200RPM
 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

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:

Fortran: -fast -xautopar -xipo=2 -xarch=amd64
 C: -fast -xipo=2 -xalias_level=std -xpagesize=2m

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: basepeak=yes



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Notes/Tuning Information (Continued)

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172.mgrid:    basepeak=yes
173.applu:    basepeak=yes
177.mesa:     -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64
              -xalias_level=strong -xpagesize=2m +FDO
178.galgel:   -fast -xautopar -stackvar -xipo=2 -xarch=amd64 -xprefetch=no%auto
              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.quake:   -fast -Wd,-iropt-prof -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m
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.ammmp:   basepeak=yes
189.lucas:   -fast -xautopar -Qoption ube_ipa -inl_alt -xipo=2 -xarch=amd64 -xprefetch_level=3
191.fma3d:   basepeak=yes
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=amd64 -xpagesize=2m

```

Portability:
178.galgel: -fixed

Shell Environments:
Stack size set to unlimited via "ulimit -s unlimited"
export PARALLEL=2

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++

Default BIOS setting was used