



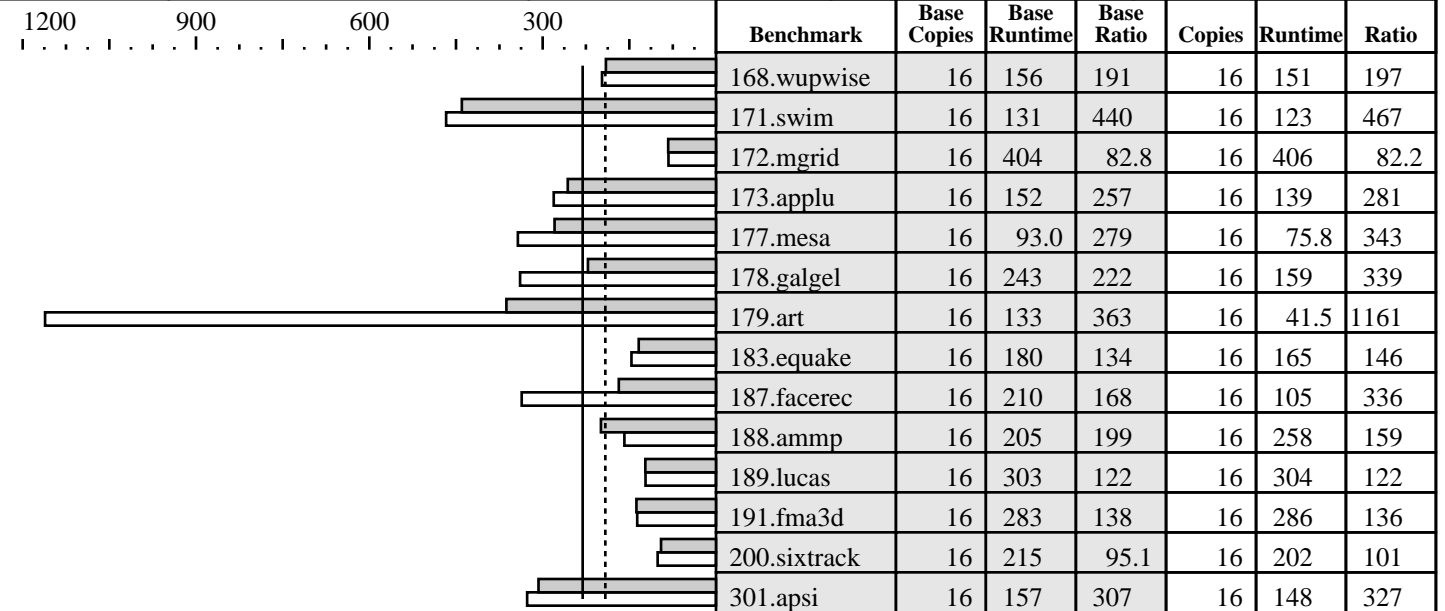
CFP2000 Result

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Sun Microsystems
Sun Fire X4600

SPECfp_rate2000 = 231
SPECfp_rate_base2000 = 191

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



Hardware

CPU: AMD Opteron (TM) 885
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip
 CPU(s) orderable: 4,8 (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: 64GB (32x2GB, PC3200 CL3 DDR ECC Regd. SDRAM)
 Disk Subsystem: SAS,73GB,10K RPM
 Other Hardware: None

Software

Operating System: Solaris 10 1/06
 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:

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 -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 -xipo=2 -xpagesize_heap=2m -xprefetch_level=3 -xvector=simd -xarch=amd64
RM_SOURCES=lapak.f90
EXTRALIBS=-xlic_lib=sunperf
179.art: -fast -xipo=2 -xalias_level=strong -xprefetch -Wd,-iropt-prof -xpagesize=2m +FDO
183.earthquake: -fast -Wd,-iropt-prof -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 -xcache=64/32/4:1024/64/4 -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 -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"

PARALLEL was not set, therefore each copy of the benchmark ran single-threaded using only one core.

Kernel Parameters (/etc/system):

```
autoup=900
tune_t_fsflushr=1
```

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