# CFP2000 Result

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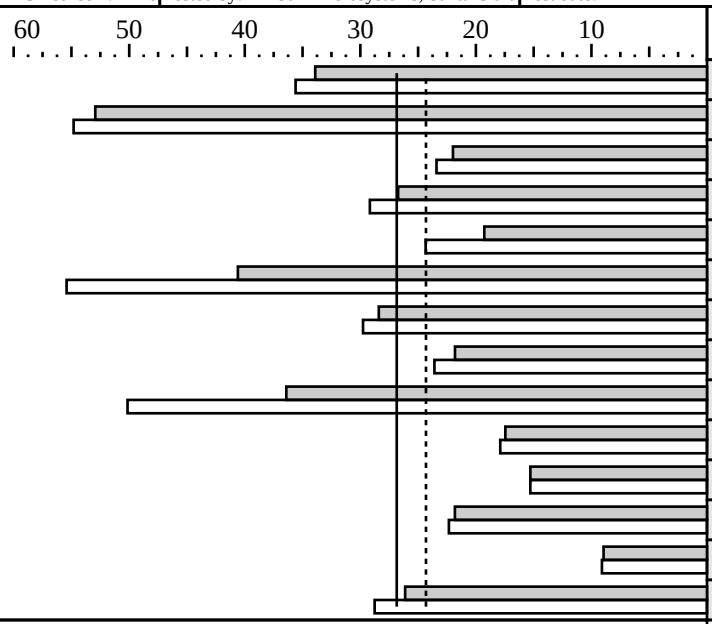
## Sun Microsystems
## Sun Ultra 40

SPECfp_rate2000 = 26.8

SPECfp_rate_base2000 = 24.3

SPEC license #: 6 | Tested by: Sun Microsystems, Santa Clara | Test date: Feb-2006 | Hardware Avail: Jan-2006 | Software Avail: Nov-2005




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 1 | 54.7 | 33.9 | 1 | 52.1 | 35.6 |
| 171.swim | 1 | 67.9 | 52.9 | 1 | 65.6 | 54.8 |
| 172.mgrid | 1 | 95.0 | 22.0 | 1 | 89.2 | 23.4 |
| 173.applu | 1 | 91.1 | 26.7 | 1 | 83.5 | 29.2 |
| 177.mesa | 1 | 84.3 | 19.3 | 1 | 66.7 | 24.3 |
| 178.galgel | 1 | 82.9 | 40.6 | 1 | 60.7 | 55.4 |
| 179.art | 1 | 106 | 28.4 | 1 | 101 | 29.8 |
| 183.equake | 1 | 69.1 | 21.8 | 1 | 63.9 | 23.6 |
| 187.facerec | 1 | 60.5 | 36.4 | 1 | 44.0 | 50.1 |
| 188.ammp | 1 | 146 | 17.4 | 1 | 143 | 17.9 |
| 189.lucas | 1 | 152 | 15.3 | 1 | 152 | 15.3 |
| 191.fma3d | 1 | 112 | 21.8 | 1 | 109 | 22.3 |
| 200.sixtrack | 1 | 143 | 8.95 | 1 | 140 | 9.09 |
| 301.apsi | 1 | 115 | 26.1 | 1 | 105 | 28.8 |

### Hardware

| | |
|---|---|
| CPU: | AMD Opteron (TM) 254 |
| CPU MHz: | 2800 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 1 core/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: | 8GB (4x2GB, PC3200 CL3 DDR ECC Registered SDRAM) |
| Disk Subsystem: | SATA,250GB,7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Solaris 10 3/05 HW2 |
| 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
 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 -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.equake:    -fast -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
                  EXTRALIBS=-xlic_lib=sunperf
 188.ammp:      -fast -xcache=64/32/4:1024/64/4 -xarch=sse2a -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 -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 -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"

Default BIOS setting was used ; Only one CPU was present on the system
```