# CFP2000 Result

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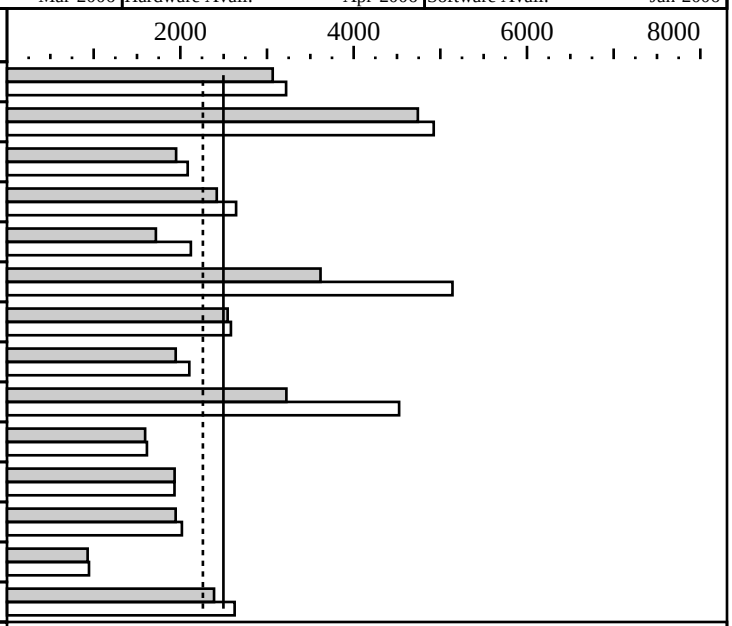
## Sun Microsystems
## Sun Ultra 40

SPECfp2000 = 2497

SPECfp_base2000 = 2260

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

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|---|---|---|---|---|---|
| 168.wupwise | 1600 | 52.2 | 3066 | 49.7 | 3220 |
| 171.swim | 3100 | 65.4 | 4741 | 63.0 | 4924 |
| 172.mgrid | 1800 | 92.2 | 1951 | 86.3 | 2085 |
| 173.applu | 2100 | 86.8 | 2420 | 79.4 | 2644 |
| 177.mesa | 1400 | 81.5 | 1718 | 66.0 | 2121 |
| 178.galgel | 2900 | 80.2 | 3618 | 56.4 | 5140 |
| 179.art | 2600 | 102 | 2546 | 101 | 2584 |
| 183.equake | 1300 | 66.8 | 1947 | 61.8 | 2104 |
| 187.facerec | 1900 | 58.9 | 3224 | 42.0 | 4524 |
| 188.ammp | 2200 | 138 | 1594 | 136 | 1615 |
| 189.lucas | 2000 | 103 | 1934 | 103 | 1933 |
| 191.fma3d | 2100 | 108 | 1946 | 104 | 2018 |
| 200.sixtrack | 1100 | 118 | 930 | 116 | 946 |
| 301.apsi | 2600 | 109 | 2389 | 99.0 | 2627 |




### Hardware

| | |
|---|---|
| CPU: | AMD Opteron (TM) 256 |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 1 core/chip |
| CPU(s) orderable: | 1 |
| 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,7200RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Solaris 10 1/06 |
| 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 -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 -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"

Kernel Parameters (/etc/system):
  autoup=900
  tune_t_fsflushr=1

System was tested in 1 chip configuration
Default BIOS setting was used
```