



CFP2000 Result

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Sun Microsystems
Sun Fire 12K

SPECfp_rate2000 = 174

SPECfp_rate_base2000 = 145

SPEC license #: 6 Tested by: Sun Microsystems Test date: Mar-2003 Hardware Avail: Mar-2003 Software Avail: May-2003

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise | 16 | 211 | 141 | 16 | 203 | 147 |
| 171.swim | 16 | 478 | 120 | 16 | 138 | 416 |
| 172.mgrid | 16 | 311 | 107 | 16 | 305 | 109 |
| 173.applu | 16 | 344 | 113 | 16 | 250 | 156 |
| 177.mesa | 16 | 213 | 122 | 16 | 201 | 130 |
| 178.galgel | 16 | 159 | 339 | 16 | 132 | 406 |
| 179.art | 16 | 31.5 | 1533 | 16 | 28.9 | 1671 |
| 183.equake | 16 | 121 | 199 | 16 | 118 | 205 |
| 187.facerec | 16 | 170 | 207 | 16 | 172 | 205 |
| 188.amp | 16 | 477 | 85.5 | 16 | 381 | 107 |
| 189.lucas | 16 | 541 | 68.6 | 16 | 438 | 84.7 |
| 191.fma3d | 16 | 525 | 74.2 | 16 | 489 | 79.7 |
| 200.sixtrack | 16 | 297 | 68.7 | 16 | 258 | 79.0 |
| 301.apsi | 16 | 442 | 109 | 16 | 442 | 109 |

Hardware

CPU: UltraSPARC III Cu
 CPU MHz: 1200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 16 chips, 1 core/chip
 CPU(s) orderable: 4-52
 Parallel: No
 Primary Cache: 32KBI+64KBD on chip
 Secondary Cache: 8MB(I+D) off chip
 L3 Cache: None
 Other Cache: None
 Memory: 128GB 16-way interleaved
 Disk Subsystem: 1 x 36GB (System Disk)
 Sun StorEdge T3, 9 x 18GB striped
 Other Hardware: None

Software

Operating System: Solaris 9 12/02
 Compiler: Sun ONE Studio 8 (pre-FCS build 3/9)
 Sun Performance Library 8 (pre-FCS build 3/9)
 File System: ufs with ufs logging
 System State: Multi-User

Notes/Tuning Information

Compiler invocation:

C: cc
 CXX: CC
 F90: f90
 F77: f90

Floating point base flags:

C: -fast -xipo=2 -xalias_level=std with ONESTEP=yes and feedback
 F90: -fast -xipo=2 with ONESTEP=yes and feedback

Floating point peak flags:

ONESTEP=yes and feedback for all benchmarks, unless otherwise noted

168.wupwise: -fast -xipo=2 -Qoption iropt -Ainline:inc=800:cp=1
 171.swim: -fast -xpad=common:3969 -xpagesize=64K -xprefetch=latx:1.6
 -Qoption iropt -Atile:skewp,-Ainline:cs=700



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Notes/Tuning Information (Continued)

```

(no feedback)
172.mgrid: -fast -xipo=2
173.applu: -fast -xipo=2
           -Qoption cg -Qlp=1-av=192-fa=1,-Qms_pipe+prefolim=7
           -Qoption iropt -Aujam:inner=g
177.mesa: -fast -xipo=2 -xalias_level=strong -xrestrict
           -Wc,-Qms_pipe+unoovf
178.galgel: -fast -xipo=2 -Qoption iropt -Addint:sf=9 -xlic_lib=sunperf
            RM_SOURCES=lapak.f90
179.art: -fast -xipo=2 -xalias_level=std
          -Wc,-Qms_pipe-prefst,-Qms_pipe+prefolim=11
183.equake: -fast -xipo=2 -xalias_level=strong -xprefetch_level=2
187.facerec: -fast -xipo=2
188.ampp: -fast -xipo=2 -xalias_level=std -xpagesize=512K -lmopt -lm
189.lucas: -fast -xipo=2 -xprefetch_level=3 -Qoption iropt -Apf:pdl=1
           -Qoption f90comp -array_pad_rows,1977
191.fma3d: -fast -xipo=2 -stackvar -xprefetch_level=3
           -Qoption iropt -Apf:pdl=1
200.sixtrack: -O -dalign -xchip=ultra3 -xarch=v8plusb -fsimple=2
301.apsi: -fast -xipo=2

```

Feedback is done as follows, unless otherwise noted:

```

fdo_pre0: rm -rf ./feedback.profile ./SunWS_cache
PASS1: -xprofile=collect:./feedback
PASS2: -xprofile=use:./feedback

```

Portability:

178.galgel: -e -fixed

Shell Environments:

```

Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=4M
MPSSSTACK=4M
LD_PRELOAD=mpss.so.1

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```

Processes were bound to CPUs using submit=pbind