



# CFP2000 Result

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Sun Microsystems  
Sun Fire X2100

SPECfp2000 = 2334  
SPECfp\_base2000 = 2118

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	54.3	2948	52.7	3035	
171.swim	3100	74.2	4178	70.6	4392	
172.mgrid	1800	103	1751	97.4	1848	
173.applu	2100	88.5	2373	80.6	2604	
177.mesa	1400	82.1	1705	66.5	2105	
178.galgel	2900	90.7	3199	62.6	4632	
179.art	2600	111	2332	106	2461	
183.quake	1300	69.1	1882	64.4	2018	
187.facerec	1900	63.8	2978	47.0	4043	
188.amp	2200	139	1581	140	1567	
189.lucas	2000	124	1608	124	1608	
191.fma3d	2100	113	1854	110	1907	
200.sixtrack	1100	118	931	116	950	
301.apsi	2600	114	2283	104	2490	

### Hardware

CPU: AMD Opteron (TM) 156  
 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: 4GB (4x1GB, PC3200 CL3 DDR ECC SDRAM)  
 Disk Subsystem: SATA,80GB,10K RPM  
 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)

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-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 -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.quake: -fast -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.ammp: -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"

### Kernel Parameters (/etc/system):

autoup=900  
tune\_t\_fsflushr=1

Default BIOS setting was used