



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.quake	1300	66.8	1947	61.8	2104	
187.facerec	1900	58.9	3224	42.0	4524	
188.amp	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)

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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.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"

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

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