



# CFP2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Fire X4200

SPECfp2000 = 2412

SPECfp\_base2000 = 2157

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	50.9	3145	46.8	3422	
171.swim	3100	117	2641	115	2687	
172.mgrid	1800	92.1	1954	88.0	2045	
173.applu	2100	124	1688	83.0	2529	
177.mesa	1400	71.8	1951	54.5	2568	
178.galgel	2900	82.1	3534	73.5	3947	
179.art	2600	60.1	4325	54.5	4768	
183.quake	1300	61.4	2118	61.1	2129	
187.facerec	1900	67.7	2808	67.7	2808	
188.ammmp	2200	133	1648	121	1821	
189.lucas	2000	106	1879	83.8	2387	
191.fma3d	2100	112	1877	112	1877	
200.sixtrack	1100	120	920	106	1036	
301.apsi	2600	143	1812	134	1939	

### Hardware

CPU: AMD Opteron (TM) 256  
CPU MHz: 3000  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1,2 (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: SAS,36GB,10K RPM  
Other Hardware: None

### Software

Operating System: SUSE LINUX Enterprise Server 9 SP3 (x86\_64)  
Compiler: PathScale EKOPath(TM) Compiler Suite, Version 2.3  
PGI Compiler for Linux, Release 6.1-3  
AMD Core Mathematical Library (ACML), Version 3.0.0  
File System: ufs  
System State: Multi-user

## Notes/Tuning Information

### Portability flags:

178.galgel (base using pgf90) : -Mfixed  
178.galgel (peak using pathf95) : -fixedform

### Feedback Optimization +FDO:

PGI : PASS1=-Mpmfi PASS2=-Mpmfo  
PathSale: PASS1=-fb\_create fbdata PASS2=-fb\_opt fbdata

+ACML means -Lacml-install-dir/pathscale64/lib -lacml,  
which links with AMD Core Math Library

### Baseline Optimization Flags:

C programs : pgcc -fastsse -Mipa=fast,inline +FDO  
Fortran programs: pgf90 -fastsse -Mipa=fast,inline +FDO

### Peak Tuning Flags:

168.wupwise: pathf95 -Ofast -LNO:prefetch Ahead=5:prefetch=3



# CFP2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

Sun Microsystems  
Sun Fire X4200

SPECfp2000 = 2412

SPECfp\_base2000 = 2157

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

## Notes/Tuning Information (Continued)

```

-OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
-IPA:linear=on:plimit=50000:callee_limit=5000
-CG:local_fwd_sched=on -m3dnow
171.swim: pathf95 -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnow
172.mgrid: pathf95 -Ofast -CG:gcm=off -OPT:IEEE_a=3:unroll_size=200
-LNO:fusion=2:fission=1:blocking=off:prefetch_ahead=2
-WOPT:mem_opnds=on:aggstr=0
173.applu: pathf95 -Ofast -CG:local_fwd_sched=on -OPT:ro=3 -TENV:X=3
-LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3
+FDO
177.mesa: pathf95 -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on
-WOPT:mem_opnds=on +FDO
178.galgel: pathf95 -Ofast -OPT:fast_complex=on +ACML +FDO
RM_SOURCES=lapak.f90
179.art: pgcc -fastsse -Munroll=n:9 -Mipa=fast,inline -tp k8-32
183.equake: pgcc -fastsse -Mflushz -Mnovect -Mipa=fast,inline ONESTEP=yes +FDO
187.facerec: pgf90 basepeak=1
188.ammp: pathcc -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
-fno-math-errno -TENV:X=4 +FDO
189.lucas: pathf95 -O3 -OPT:ro=3:fast_nint=off:unroll_size=256
-WOPT:mem_opnds=on +FDO
191.fma3d: pgf90 basepeak=1
200.sixtrack: pathf95 -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on
-fno-math-errno -CG:load_exe=1 +FDO
301.apsi: pathf95 -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```

Default BIOS settings was used.  
System was tested in 1-chip configuration.

This result was measured on the Sun Fire X4200. In addition,  
Sun has submitted the same result for the Sun Fire X4100, which is  
electronically equivalent to the Sun Fire X4200.