



# CFP2000 Result

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Advanced Micro Devices  
ASUS M2N-LR/SATA, AMD Opteron (TM) 1218

SPECfp\_rate2000 = 42.5  
SPECfp\_rate\_base2000 = 39.0

SPEC license #: 49 | Tested by: AMD Austin, TX | Test date: Jul-2006 | Hardware Avail: Sep-2006 | Software Avail: Jan-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	61.5	60.4	2	55.6	66.8
171.swim	2	216	33.3	2	208	34.5
172.mgrid	2	133	31.4	2	125	33.4
173.applu	2	118	41.4	2	104	46.8
177.mesa	2	71.2	45.6	2	61.3	53.0
178.galgel	2	106	63.5	2	98.8	68.1
179.art	2	122	49.6	2	80.8	74.7
183.quake	2	102	29.7	2	90.2	33.4
187.facerec	2	79.6	55.4	2	80.6	54.7
188.amp	2	146	34.9	2	137	37.3
189.lucas	2	141	32.9	2	140	33.2
191.fma3d	2	141	34.6	2	140	34.8
200.sixtrack	2	125	20.4	2	120	21.4
301.apsi	2	161	37.5	2	155	39.0

**Hardware**

CPU: AMD Opteron (TM) 1218  
CPU MHz: 2600  
FPU: Integrated  
CPU(s) enabled: 2 cores, 1 chip, 2 cores/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: 2x1024MB, DDR2-800 CL3  
Disk Subsystem: IDE, 120GB  
Other Hardware: None

**Software**

Operating System: SuSE Linux Enterprise Server 9 SP3 (64-bit)  
Compiler: PathScale EKOPath(TM) Compiler Suite, Release 2.3  
File System: Linux/ext3  
System State: Multi-user, run level 3

## Notes/Tuning Information

+FDO: PASS1= -fb\_create fbdata PASS2= -fb\_opt fbdata  
+ACML means -L<acml2.7.0-install-dir>/pathscale64/lib -lacml,  
which causes linking with AMD Core Math Library V2.7.0

### Baseline optimization

C programs: -Ofast -WOPT:mem\_opnds=on +FDO  
Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast\_complex=on +FDO  
Portability Flags:  
178.galgel: -fixedform

### Peak Tuning:

168.wupwise: -Ofast -LNO:prefetch Ahead=5:prefetch=3  
-OPT:unroll\_times\_max=8:unroll\_size=128:IEEE\_NaN\_Inf=off:ro=3  
-IPA:linear=on:plimit=50000:callee\_limit=5000  
-INLINE:aggressive=on  
171.swim: -Ofast -CG:local\_fwd\_sched=on -LNO:fusion=2 -m3dnow



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## Notes/Tuning Information (Continued)

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172.mgrid: -Ofast -CG:gcm=off -OPT:IEEE_arith=3:unroll_size=200
           -LNO:fusion=2:fission=1:blocking=off:prefetch Ahead=2
           -WOPT:mem_opnds=on:aggstr=0
173.applu: -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:  -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on -WOPT:mem_opnds=on +FDO
178.galgel: -Ofast -OPT:fast_complex=on +ACML +FDO
           RM_SOURCES=lapak.f90
179.art:   -O3 -OPT:Ofast -fno-math-errno -mno-sse2 -m32
183.quake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32 +FDO
187.facerec: -Ofast -LNO:fusion=2
           -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.ammp:  -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
           -fno-math-errno -TENV:X=4 +FDO
189.lucas: -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:mem_opnds=on +FDO
191.fma3d: -O2 -ipa -CG:load_exe=1 -OPT:Ofast:IEEE_arith=3:ro=3
           -WOPT:mem_opnds=on:retype_expr=on -IPA:pu_reorder=1 +FDO
200.sixtrack: -O3 -OPT:Ofast:Olimit=6000:early_intrinsics=on
           -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:  -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```

The tested system can be assembled using a standard ATX case and an Antec True 550 watt EPS12V Power Supply.  
 Half memory slots populated in dual channel configuration.  
 taskset utility used to bind CPU(s) to processes.