



# CFP2000 Result

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**IBM**  
AMD Opteron LS20 for IBM eServer Blade Center

SPECfp2000 = 1727  
SPECfp\_base2000 = 1577

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Aug-2005 | Hardware Avail: Jul-2005 | Software Avail: Apr-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	1000 2000 3000 4000			
168.wupwise	1600	81.7	1959	66.3	2414	[Bar chart showing ratio 2414]			
171.swim	3100	133	2326	134	2317	[Bar chart showing ratio 2317]			
172.mgrid	1800	121	1487	109	1644	[Bar chart showing ratio 1644]			
173.applu	2100	140	1501	118	1777	[Bar chart showing ratio 1777]			
177.mesa	1400	83.2	1682	77.8	1799	[Bar chart showing ratio 1799]			
178.galgel	2900	113	2571	103	2828	[Bar chart showing ratio 2828]			
179.art	2600	120	2170	90.4	2875	[Bar chart showing ratio 2875]			
183.quake	1300	87.9	1478	82.7	1572	[Bar chart showing ratio 1572]			
187.facerec	1900	101	1890	96.5	1969	[Bar chart showing ratio 1969]			
188.amp	2200	203	1085	191	1153	[Bar chart showing ratio 1153]			
189.lucas	2000	113	1770	113	1770	[Bar chart showing ratio 1770]			
191.fma3d	2100	154	1365	148	1421	[Bar chart showing ratio 1421]			
200.sixtrack	1100	178	617	155	708	[Bar chart showing ratio 708]			
301.apsi	2600	190	1368	188	1386	[Bar chart showing ratio 1386]			

### Hardware

CPU: AMD Opteron 275  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2  
 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: 4 x 2048MB, DDR400  
 Disk Subsystem: SCSI, 36GB 10K RPM  
 Other Hardware: None

### Software

Operating System: SuSE Linux 9.0 SLES 64 bit Kernel 2.6.5-7.151-smp (SP1)  
 Compiler: PathScale EKOPATH(TM) Compiler Suite, Release 2.1  
 AMD Core Math Library 2.5.1  
 File System: Linux/reiserfs  
 System State: Multi-user, run level 3

## Notes/Tuning Information

Tested by IBM Corporation

+ACML: Linked with AMD Core Math Library

+FDO: PASS1= -fb\_create fbdata PASS2= -fb\_opt fbdata

Base tuning for C programs: -Ofast -WOPT:mem\_opnds=on +FDO

Base tuning for FORTRAN programs: -Ofast -LNO:fusion=2 -OPT:fast\_complex

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 -TENV:X=4

-IPA:space=1000:linear=on:plimit=50000:callee\_limit=5000

-INLINE:aggressive=on

171.swim: -Ofast -LNO:fusion=2

172.mgrid: -O3 -LNO:fusion=2:blocking=off

-OPT:Ofast:unroll\_times\_max=8:unroll\_size=256:ro=3 -CG:gcm=off:cflow=off

173.applu: -Ofast -CG:local\_fwd\_sched=on

-LNO:fusion=2:fission=2:full\_unroll\_size=10000:prefetch=3

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## Notes/Tuning Information (Continued)

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-OPT:ro=3 -TENV:X=3 -WOPT:val=2
177.mesa: -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel: -Ofast -OPT:fast_complex -CG:use_movlpd=on RM_SOURCES=lapak.f90 +ACML
179.art: -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32 +FDO
183.quake: -Ofast -WOPT:mem_opnds=on -CG:local_fwd_sched=on -m32
187.facerec: -Ofast -OPT:treeheight=on:IEEE_NaN_Inf=off:ro=3 -CG:load_exe=0
-LNO:fusion=2 -IPA:plimit=1500 +FDO
188.ammp: -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
-fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 +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: -Ofast -CG:load_exe=1 +FDO
301.apsi: -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0
BIOS Configuration Notes
Node Interleaving is Disabled
Other Configuration Notes
Taskset utility used to bind process to CPU(s)

```