



CFP2000 Result

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IBM

AMD Opteron LS20 for IBM eServer Blade Center (Opteron(tm) 254)

SPECfp_rate2000 = 51.3

SPECfp_rate_base2000 = 46.5

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Feb-2006 | Hardware Avail: Feb-2006 | Software Avail: Nov-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	58.1	63.9	2	53.6	69.2
171.swim	2	125	57.6	2	118	61.0
172.mgrid	2	99.9	41.8	2	93.3	44.8
173.applu	2	98.7	49.4	2	89.2	54.6
177.mesa	2	62.8	51.7	2	59.2	54.8
178.galgel	2	88.1	76.4	2	80.2	83.9
179.art	2	98.1	61.5	2	69.2	87.1
183.quake	2	79.3	38.0	2	71.5	42.2
187.facerec	2	73.2	60.2	2	70.6	62.4
188.amp	2	135	37.7	2	129	39.7
189.lucas	2	99.5	46.6	2	89.0	52.1
191.fma3d	2	129	37.8	2	124	39.3
200.sixtrack	2	135	18.9	2	113	22.7
301.apsi	2	143	42.2	2	138	43.6

Hardware

CPU: AMD Opteron(tm) Processor 254
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
 CPU(s) orderable: 1,2
 Parallel: No
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB (I+D) on chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4 x 2048GB PC3200
 Disk Subsystem: SCSI, 36GB 10K RPM
 Other Hardware: None

Software

Operating System: SuSE Linux 9.0 SP2 SLES 64 bit Kernel 2.6.5-7.191-smp (SP2)
 Compiler: PathScale EKO Compiler Suite, Release 2.2.1
 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

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

-IPA:linear=on:plimit=50000:callee_limit=5000

-INLINE:aggressive=on

171.swim: -Ofast -CG:local_fwd_sched=on -LNO:fusion=2 -m3dnw

172.mgrid: -Ofast -CG:gcm=off:cflow=on -OPT:IEEE_a=3:unroll_size=200

-LNO:fusion=2:fission=1:blocking=off:prefetch Ahead=2

-WOPT:memopnds=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

Standard Performance Evaluation Corporation

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Notes/Tuning Information (Continued)

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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 +ACML
179.art:       -O3 -OPT:ofast -fno-math-errno -mno-sse2 -m32 +FDO
183.earthquake: -Ofast -CG:load_exe=2 -WOPT:mem_opnds=on -m32
187.facerec:   -Ofast -LNO:fusion=2 -IPA:plimit=1500
               -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=0 +FDO
188.ammamp:    -O3 -OPT:alias=disjoint:unroll_times_max=8:Ofast:ro=3
               -fno-math-errno -TENV:X=4 -LNO:prefetch=0 +FDO
189.lucas:     -Ofast -OPT:ro=3:fast_nint=off:unroll_size=256 -WOPT:memopnds=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=60000:early_intrinsics=on
               -fno-math-errno -CG:load_exe=1 +FDO
301.apsi:      -Ofast -CG:load_exe=0 -LNO:prefetch=0:simd=2

```

BIOS Configuration Notes
Node Interleaving is Disabled

Other Configuration Notes
Taskset utility used to bind process to CPU(s)