



CFP2000 Result

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IBM

AMD Opteron LS20 for IBM eServer Blade Center (AMD Opteron (TM) 275)

SPECfp_rate2000 = 66.6

SPECfp_rate_base2000 = 61.1

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	86.3	86.0	4	69.8	106
171.swim	4	250	57.6	4	249	57.7
172.mgrid	4	163	51.2	4	156	53.6
173.applu	4	154	63.2	4	135	72.2
177.mesa	4	82.4	78.8	4	76.9	84.4
178.galgel	4	134	100	4	129	104
179.art	4	153	78.9	4	107	113
183.equake	4	121	49.7	4	112	53.9
187.facerec	4	118	74.4	4	115	76.4
188.amp	4	206	49.6	4	194	52.6
189.lucas	4	162	57.3	4	163	56.9
191.fma3d	4	182	53.5	4	174	56.1
200.sixtrack	4	175	29.1	4	154	33.2
301.apsi	4	197	61.3	4	194	62.1

Hardware

CPU: AMD Opteron 275
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/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 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
 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

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 +FDO

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

-OPT:ro=3 -TENV:X=3 -WOPT:val=2

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 +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)