



CFP2000 Result

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IBM

AMD Opteron LS20 for IBM eServer Blade Center (Opteron(tm) 280)

SPECfp_rate2000 = 73.4

SPECfp_rate_base2000 = 68.0

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	4	71.4	104	4	66.8	111
171.swim	4	245	58.7	4	242	59.5
172.mgrid	4	158	53.0	4	155	53.9
173.applu	4	134	72.5	4	124	78.3
177.mesa	4	73.0	89.0	4	69.4	93.6
178.galgel	4	121	111	4	118	114
179.art	4	139	86.9	4	93.7	129
183.quake	4	118	51.0	4	107	56.4
187.facerec	4	97.8	90.2	4	94.2	93.6
188.amp	4	158	64.8	4	150	68.2
189.lucas	4	158	58.7	4	157	59.2
191.fma3d	4	171	57.0	4	166	58.8
200.sixtrack	4	157	32.5	4	131	39.1
301.apsi	4	173	69.9	4	170	71.1

Hardware

CPU: AMD Opteron(tm) Processor 280
 CPU MHz: 2400
 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 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

+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: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 -LNO:fusion=2:fission=1:blocking=off:prefetch Ahead=2
 -OPT:IEEE_a=3:unroll_size=200 -CG:gcm=off:cflow=off
 -WOPT:memopnds=on:aggstr=0
 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
 177.mesa: -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on -WOPT:mem_opnds=on +FDO



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Notes/Tuning Information (Continued)

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178.galgel: -Ofast -OPT:fast_complex +ACML
179.art: -O3 -OPT:ofast -fno-math-errno -mno-sse2 -m32 +FDO
183.quake: -Ofast -WOPT:mem_opnds=on -CG:load_exe=2 -m32
187.facerec: -Ofast -OPT:fast_complex=on:IEEE_NaN_Inf=off:unroll_size=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 +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)