CFP2000 Result

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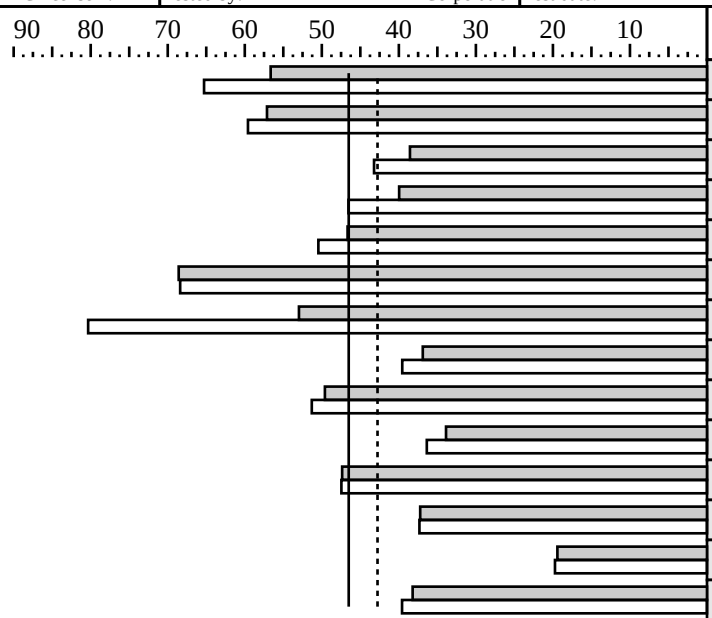
IBM

AMD Opteron LS20 for IBM eServer Blade Center (AMD Opteron (TM) 252)

SPECfp_rate2000 = 46.5

SPECfp_rate_base2000 = 42.8

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	65.5	56.6	2	56.9	65.3
171.swim	2	126	57.1	2	121	59.6
172.mgrid	2	108	38.6	2	96.6	43.2
173.applu	2	122	40.0	2	105	46.5
177.mesa	2	69.6	46.7	2	64.4	50.4
178.galgel	2	98.1	68.6	2	98.4	68.4
179.art	2	114	53.0	2	75.1	80.3
183.equake	2	81.7	36.9	2	76.2	39.6
187.facerec	2	88.9	49.6	2	85.9	51.3
188.ammp	2	151	33.9	2	140	36.4
189.lucas	2	98.0	47.4	2	97.8	47.5
191.fma3d	2	131	37.2	2	131	37.3
200.sixtrack	2	131	19.4	2	129	19.7
301.apsi	2	158	38.2	2	152	39.6

Hardware

CPU:	AMD Opteron 252
CPU MHz:	2600
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:	4x2048MB, DDR400
Disk Subsystem:	SCSI, 36GB 10K RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux 9.0 SLES 64 bit Kernel 2.6.5-7.139-smp (SP1)
Compiler:	PathScale EKO Compiler Suite, Release 2.0
File System:	Linux/reiserfs
System State:	Multi-user, run level 3

Notes/Tuning Information

```
Tested by IBM Corporation

 +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata

 Baseline optimization
   C:              pathcc  -Ofast -WOPT:mem_opnds=on +FDO
   Fortran:        pathf90 -Ofast -LNO:fusion=2
 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 -m3dnow
   172.mgrid:     -O3 -LNO:fusion=2:blocking=off
```

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Notes/Tuning Information (Continued)

```
                -OPT:Ofast:unroll_times_max=8:unroll_size=256:ro=3
                -CG:gcm=off:cflow=off -m3dnow
    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
    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 +FDO
    179.art:    -O3 -OPT:ro=2:div_split=on:alias=typed
                -fno-math-errno -m32
    183.equake: -Ofast -WOPT:mem_opnds=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 +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: -O3 -OPT:Ofast:Olimit=6000 -fno-math-errno
                -CG:load_exe=1 +FDO
    301.apsi:   -Ofast -TENV:X=4 -LNO:fusion=2:prefetch=0
```