CFP2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

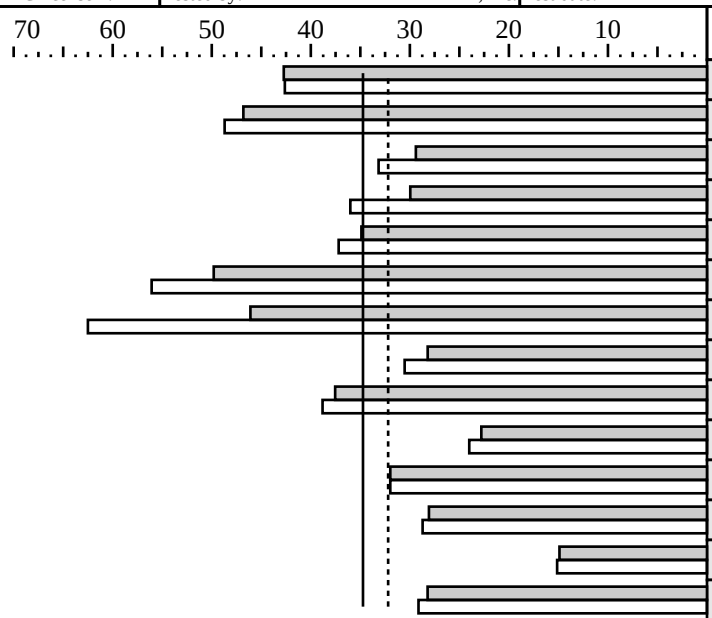
IBM Corporation

AMD Opteron LS20 for IBM eServer Blade Center (AMD Opteron (TM) 246)

SPECfp_rate2000 = 34.7

SPECfp_rate_base2000 = 32.2

SPEC license #: 11 | Tested by: IBM, Inc. | Test date: Apr-2005 | Hardware Avail: Apr-2005 | Software Avail: Apr-2005



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	2	86.9	42.7	2	87.1	42.6
171.swim	2	154	46.8	2	148	48.7
172.mgrid	2	142	29.4	2	126	33.2
173.applu	2	163	30.0	2	135	36.0
177.mesa	2	93.1	34.9	2	87.3	37.2
178.galgel	2	135	49.8	2	120	56.1
179.art	2	131	46.1	2	96.5	62.5
183.equake	2	107	28.2	2	98.8	30.5
187.facerec	2	117	37.5	2	114	38.8
188.ammp	2	224	22.8	2	213	24.0
189.lucas	2	145	32.0	2	145	32.0
191.fma3d	2	174	28.1	2	170	28.7
200.sixtrack	2	171	14.9	2	169	15.1
301.apsi	2	214	28.2	2	207	29.1

Hardware

CPU:	AMD Opteron 246
CPU MHz:	2000
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 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
File System:	Linux/reiserfs
System State:	Multi-user, run level 3

Notes/Tuning Information

```
Tested by IBM, Inc.

 +FDO: PASS1= -fb_create fbdata  PASS2= -fb_opt fbdata
 +ACML  means -L/opt/acml2.5.1/pathscale64/lib -lacml,
        which causes linking with AMD Core Math Library V2.5.1

 Baseline optimization
   C programs:       -Ofast -WOPT:mem_opnds=on +FDO
   Fortran programs: -Ofast -LNO:fusion=2 -OPT:fast_complex=on +FDO
 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
```

Copyright ©1999-2005, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
171.swim:    -Ofast -LNO:fusion=2 -m3dnow
172.mgrid:   -O3 -LNO:fusion=2:blocking=off
             -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
177.mesa:    -O2 -ipa -OPT:Ofast -fno-math-errno -CG:local_fwd_sched=on +FDO
178.galgel:  -Ofast -OPT:fast_complex=on +ACML
179.art:     -O3 -OPT:ro=2:div_split=on:alias=typed -fno-math-errno -m32
183.equake:  -Ofast -CG:load_exe=2 -OPT:treeheight=on -WOPT:mem_opnds=on -m32
187.facerec:  -Ofast -OPT:IEEE_NaN_Inf=off:ro=3 -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: basepeak = true
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
```