



# CINT2000 Result

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IBM Corporation  
IBM BladeCenter LS21 (AMD Opteron 2220)

SPECint\_rate2000 = 83.3  
SPECint\_rate\_base2000 = 73.3

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Feb-2007 | Hardware Avail: Feb-2007 | Software Avail: Oct-2006

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	83.4	77.9	4	83.1	78.1
175.vpr	4	116	55.8	4	109	59.8
176.gcc	4	60.3	84.6	4	60.8	84.0
181.mcf	4	327	25.6	4	194	43.1
186.crafty	4	42.4	109	4	42.1	110
197.parser	4	153	54.5	4	120	69.6
252.eon	4	43.9	137	4	39.3	153
253.perlbnk	4	103	81.4	4	87.1	95.9
254.gap	4	65.3	78.2	4	64.0	79.7
255.vortex	4	75.5	117	4	68.7	128
256.bzip2	4	104	66.9	4	104	66.9
300.twolf	4	220	63.3	4	163	85.4

### Hardware

CPU: AMD Opteron 2220  
 CPU MHz: 2800  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Parallel: No  
 Primary Cache: 64 KB I + 64 KB D on chip (per core)  
 Secondary Cache: 1 MB I+D on chip (per core)  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 16 GB (8x2 GB PC2-5300)  
 Disk Subsystem: 1x73 GB 10K SAS  
 Other Hardware:

### Software

Operating System: SuSE Linux Enterprise Server 9 (x86\_64) SP 3  
 SuSE kernel 2.6.5-7.244-default  
 Compiler: PathScale EKOPATH(TM) Compiler Suite, Release 2.5  
 File System: Linux/ext2  
 System State: Multi-user run level 3

## Notes/Tuning Information

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
Base tuning for C programs: -Ofast +FDO
Base tuning for C++ programs: -Ofast +FDO
Portability flags:
 186.crafty: -DLINUX_i386
 252.eon: -DHAS_ERRLIST -DSPEC_CPU2000_LP64
 253.perlbnk: -DSPEC_CPU2000_LINUX_I386 -DSPEC_CPU2000_NEED_BOOL
              -DSPEC_CPU2000_LP64
 254.gap: -DSYS_IS_USG -DSYS_HAS_IOCTL_PROTO -DSYS_HAS_TIME_PROTO
           -DSYS_HAS_CALLOC_PROTO -DSPEC_CPU2000_LP64
 255.vortex: -DSPEC_CPU2000_LP64
Peak tuning:
164.gzip: -O3 -ipa -WOPT:val=0 -OPT:unroll_size=0 +FDO
175.vpr: -O3 -ipa -m32 +FDO
176.gcc: -O3 -IPA:plimit=10000 -LNO:opt=0 -OPT:goto=off +FDO
181.mcf: -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty: -Ofast -CG:local_fwd_sched=on -LNO:opt=0 -WOPT:val=0 +FDO
197.parser: -O3 -ipa -m32 -IPA:ctype=on +FDO
252.eon: -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off -IPA:plimit=4000
         -OPT:treeheight=on -TENV:X=4:frame_pointer=off -fno-exceptions
```



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## Notes/Tuning Information (Continued)

```
-LNO:fu=10:full_unroll_outer=on -GRA:optimize_boundary=on +FDO
253.perlbnk: -O2 -ipa -OPT:Ofast:transform_to_memlib=off
              -fno-math-errno -IPA:plimit=10000 +FDO
254.gap:      -Ofast -IPA:min_hotness=5 -OPT:alias=disjoint -CG:movnti=1 +FDO
255.vortex:   -Ofast -OPT:goto=off +FDO
256.bzip2:    basepeak=true
300.twolf:    -O2 -CG:gcm=off:p2align_freq=100000
              -OPT:Ofast:unroll_times_max=8:unroll_size=256:alias=disjoint
              -WOPT:mem_opnds=on -m32 +FDO
```