



# CINT2000 Result

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**IBM Corporation**  
IBM System X 3755 (AMD Opteron (TM) 8218)

SPECint\_rate2000 = **152**  
SPECint\_rate\_base2000 = **136**

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Aug-2006 | Hardware Avail: Aug-2006 | Software Avail: Mar-2006

| Benchmark   | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip    | 8           | 89.5         | 145        | 8      | 89.5    | 145   |
| 175.vpr     | 8           | 125          | 104        | 8      | 118     | 110   |
| 176.gcc     | 8           | 67.8         | 151        | 8      | 66.7    | 153   |
| 181.mcf     | 8           | 365          | 45.8       | 8      | 208     | 80.5  |
| 186.crafty  | 8           | 44.6         | 208        | 8      | 44.5    | 208   |
| 197.parser  | 8           | 163          | 102        | 8      | 135     | 124   |
| 252.eon     | 8           | 47.2         | 256        | 8      | 42.4    | 285   |
| 253.perlbnk | 8           | 108          | 155        | 8      | 96.4    | 173   |
| 254.gap     | 8           | 72.1         | 142        | 8      | 72.1    | 142   |
| 255.vortex  | 8           | 81.1         | 217        | 8      | 75.8    | 233   |
| 256.bzip2   | 8           | 111          | 126        | 8      | 111     | 126   |
| 300.twolf   | 8           | 242          | 115        | 8      | 184     | 152   |

### Hardware

CPU: AMD Opteron 8218  
CPU MHz: 2600  
FPU: Integrated  
CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip  
CPU(s) orderable: 1,2,3,4  
Parallel: No  
Primary Cache: 64KBI + 64KBD (on chip) per core  
Secondary Cache: 1024KB (I+D) (on chip) per core  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 16x2GB, PC2-5300  
Disk Subsystem: SAS, 73GB 15K RPM  
Other Hardware: None

### Software

Operating System: SuSE Linux 9.0 SP3 SLES 64 bit Kernel 2.6.5-7.244-smp  
Compiler: PathScale EKO Compiler Suite, Release 2.4  
PathScale EKOPATH(TM) Compiler Suite, Release 2.4  
File System: Linux/reiserfs  
System State: Multi-user, run level 3

## Notes/Tuning Information

+FDO: PASS1= -fb\_create fbdata PASS2= -fb\_opt fbdata

### Baseline optimization flags:

C programs: -Ofast +FDO  
C++ programs: -Ofast +FDO

### Portability Flags:

186.crafty: -DLINUX\_i386  
252.eon: -DHAS\_ERRLIST  
253.perlbnk: -DSPEC\_CPU2000\_LINUX\_I386 -DSPEC\_CPU2000\_NEED\_BOOL  
-DSPEC\_CPU2000\_GLIBC22 -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



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## Notes/Tuning Information (Continued)

```
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
        -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: basepeak = true
255.vortex: -Ofast -OPT:goto=off -CG:p2align=on
        -GRA:optimize_boundary=on -IPA:min_hotness=120 +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
```