



# CINT2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

**IBM Corporation**  
IBM System X 3655 (AMD Opteron (TM) 2210)

SPECint\_rate2000 = **59.0**  
SPECint\_rate\_base2000 = **53.1**

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

| Benchmark   | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip    | 4           | 128          | 50.9       | 4      | 128     | 50.9  |
| 175.vpr     | 4           | 150          | 43.4       | 4      | 148     | 44.0  |
| 176.gcc     | 4           | 87.2         | 58.5       | 4      | 86.9    | 58.8  |
| 181.mcf     | 4           | 343          | 24.4       | 4      | 208     | 40.1  |
| 186.crafty  | 4           | 64.0         | 72.5       | 4      | 64.0    | 72.5  |
| 197.parser  | 4           | 209          | 39.9       | 4      | 167     | 49.9  |
| 252.eon     | 4           | 68.2         | 88.5       | 4      | 61.1    | 98.7  |
| 253.perlbnk | 4           | 148          | 56.3       | 4      | 131     | 63.9  |
| 254.gap     | 4           | 93.2         | 54.8       | 4      | 93.2    | 54.8  |
| 255.vortex  | 4           | 104          | 84.7       | 4      | 96.5    | 91.4  |
| 256.bzip2   | 4           | 140          | 49.6       | 4      | 140     | 49.6  |
| 300.twolf   | 4           | 292          | 47.7       | 4      | 234     | 59.4  |

### Hardware

CPU: AMD Opteron 2210  
 CPU MHz: 1800  
 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) per core  
 Secondary Cache: 1024KB (I+D) (on chip) per core  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 8x2GB, 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



# CINT2000 Result

Copyright ©1999-2005, Standard Performance Evaluation Corporation

IBM Corporation  
IBM System X 3655 (AMD Opteron (TM) 2210)

SPECint\_rate2000 = 59.0  
SPECint\_rate\_base2000 = 53.1

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

## 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.perlbmk: -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
```