# IBM Corporation

**IBM System X 3105 (AMD Opteron (TM) 1212)**

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<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
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## Hardware

- **CPU:** AMD Opteron 1212
- **CPU MHz:** 2000
- **FPU:** Integrated
- **CPU(s) enabled:** 2 cores, 1 chip, 2 cores/chip
- **CPU(s) orderable:** 1 chip
- **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:** 4x1GB, PC2-5300
- **Disk Subsystem:** SATA, 80GB 10K RPM
- **Other Hardware:** None

## Software

- **Operating System:** SuSE Linux 9.0 SP1 SLES 64 bit Kernel 2.6.5-7.244-smp
- **Compiler:** PathScale EKO Compiler Suite, Release 2.4
- **File System:** Linux/reiserfs
- **System State:** Multi-user, run level 3

## Notes/Tuning Information

- **Baseline optimization flags:**
  - C programs: -Ofast +FDO
  - C++ programs: -Ofast +FDO
- **Portability Flags:**
  - 186.crafty: -DLINUX_i386
  - 252.eon: -DHAS_ERRLIST
  - 254.gap: -DSYS_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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SPECint_rate2000 = 32.7
SPECint_rate_base2000 = 29.4

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