### IBM Corporation

**IBM System x3200 M2 (Intel Xeon E3110)**

**SPECint®2006**  = 25.0  
**SPECint_base2006**  = 21.5

**CPU2006 license:** 11  
**Test date:**  Jan-2008  
**Test sponsor:** IBM Corporation  
**Hardware Availability:**  Feb-2008  
**Tested by:** IBM Corporation  
**Software Availability:**  Nov-2007

<table>
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<th>Benchmark</th>
<th>SPECint®2006</th>
<th>SPECint_base2006</th>
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</table>

**Hardware**

- **CPU Name:** Intel Xeon E3110  
- **CPU Characteristics:** 1333MHz system bus  
- **CPU MHZ:** 3000  
- **FPU:** Integrated  
- **CPU(s) enabled:** 2 cores, 1 chip, 2 cores/chip  
- **CPU(s) orderable:** 1 chip  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 6 MB I+D on chip per chip  
- **L3 Cache:** None  
- **Other Cache:** None  
- **Memory:** 8 GB (4 x 2 GB DDR2-5300 ECC)  
- **Disk Subsystem:** 1 x 146 GB SAS, 15000 RPM  
- **Other Hardware:** None

**Software**

- **Operating System:** SuSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp  
- **Compiler:** Intel C++ Compiler 10.1 for Linux  
- **Auto Parallel:** Yes  
- **File System:** ReiserFS  
- **System State:** Multi-user, run level 3  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** MicroQuill SmartHeap 8.1, Binutils 2.17.50.0.15
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Results Table

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</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to null

Base Compiler Invocation
C benchmarks:
icc
C++ benchmarks:
icpc

Base Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
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Base Optimization Flags

C benchmarks:
- -fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:
- -xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
- -L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

Base Other Flags

C benchmarks:
- 403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
- icc

  401.bzip2: /opt/intel/cce/10.1.008/bin/icc
  -L/opt/intel/cce/10.1.008/lib
  -I/opt/intel/cce/10.1.008/include

  456.hmmer: /opt/intel/cce/10.1.008/bin/icc
  -L/opt/intel/cce/10.1.008/lib
  -I/opt/intel/cce/10.1.008/include

C++ benchmarks:
- icpc

Peak Portability Flags

400.perlbmk: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

Continued on next page
# SPEC CINT2006 Result

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## Peak Optimization Flags (Continued)

- 400.perlbench: `-prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias -prefetch`
- 401.bzip2: `-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32`
- 403gcc: `-fast -inline-cALLOC -opt-malloc-options=3`
- 429.mcf: `-fast -prefetch`
- 445.gobmk: `-prof-gen(pass 1) -prof-use(pass 2) -XT -O2 -ipo -no-prec-div -ansi-alias`
- 458.sjeng: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4`
- 462.libquantum: `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control`
- 464.h264ref: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias`

### C++ benchmarks:

- 471.omnetpp: `-prof-gen(pass 1) -prof-use(pass 2) -XT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`
- 473.astar: `-prof-gen(pass 1) -prof-use(pass 2) -XT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap`
- 483.xalancbmk: `basepeak = yes`

## Peak Other Flags

### C benchmarks:

- 403.gcc: `-Dalloca=_alloca`
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The flags file that was used to format this result can be browsed at [http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.html](http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.html)

You can also download the XML flags source by saving the following link:  

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For other inquiries, please contact webmaster@spec.org.

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