



# SPEC® CINT2006 Result

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## IBM Corporation

**SPECint®2006 = 20.5**

### IBM System x3250 M2 (Intel Pentium E5300)

**SPECint\_base2006 = 18.6**

CPU2006 license: 11

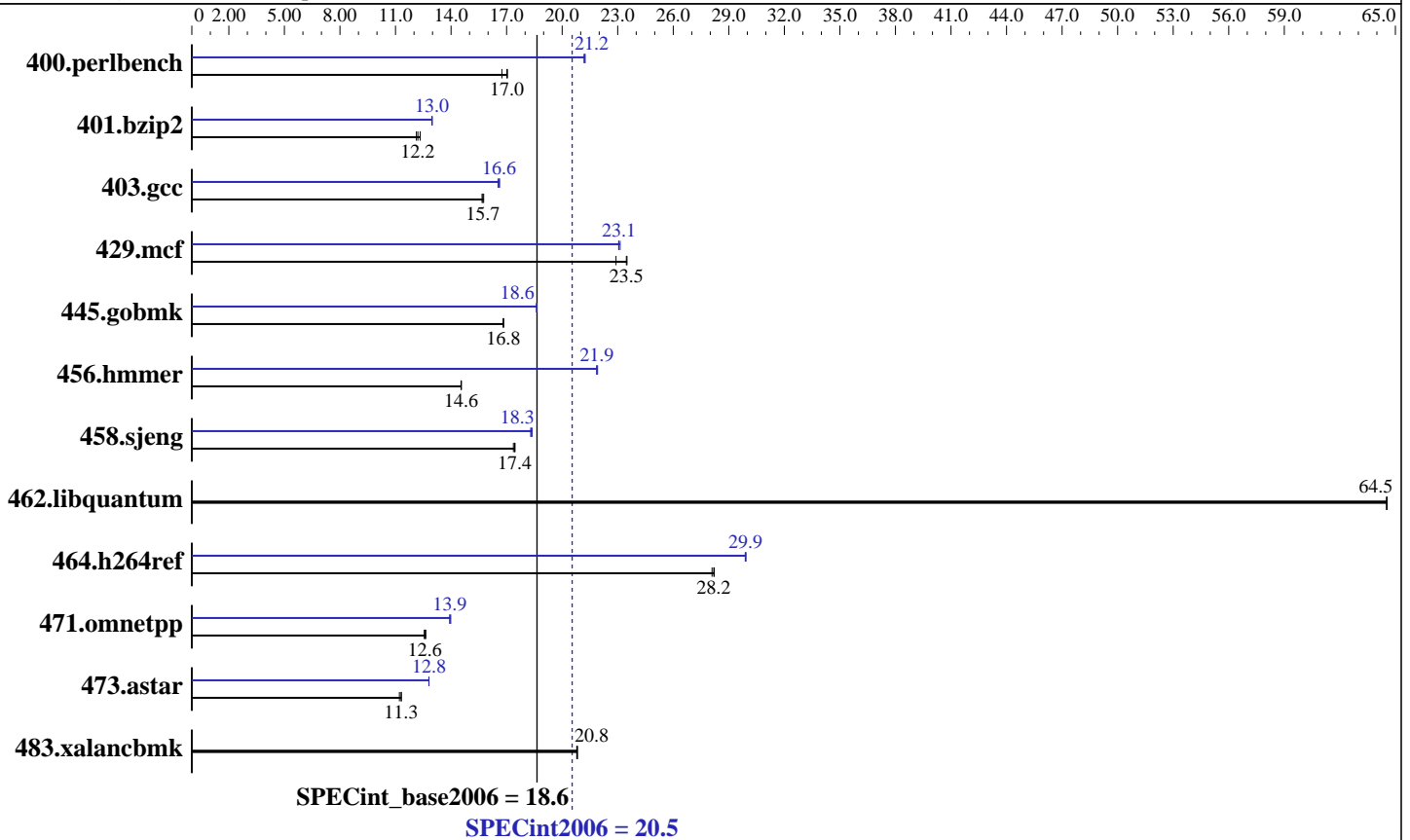
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2009

Hardware Availability: Apr-2009

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Pentium E5300  
 CPU Characteristics: 800 MHz system bus  
 CPU MHz: 2600  
 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: 2 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB(4 x 2 GB DDR2-6400E ECC)  
 Disk Subsystem: 1 x 250 GB SATA, 7200RPM  
 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 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	583	16.7	<u>574</u>	<u>17.0</u>	573	17.0	<u>460</u>	<u>21.2</u>	461	21.2	460	21.2
401.bzip2	796	12.1	782	12.3	<u>790</u>	<u>12.2</u>	744	13.0	<u>744</u>	<u>13.0</u>	743	13.0
403.gcc	511	15.8	514	15.7	<u>512</u>	<u>15.7</u>	484	16.6	487	16.5	<u>485</u>	<u>16.6</u>
429.mcf	398	22.9	<u>389</u>	<u>23.5</u>	388	23.5	<u>395</u>	<u>23.1</u>	394	23.1	396	23.1
445.gobmk	623	16.8	<u>623</u>	<u>16.8</u>	624	16.8	<u>563</u>	<u>18.6</u>	564	18.6	563	18.6
456.hammer	<u>641</u>	<u>14.6</u>	641	14.6	642	14.5	427	21.9	<u>427</u>	<u>21.9</u>	426	21.9
458.sjeng	697	17.4	<u>694</u>	<u>17.4</u>	693	17.5	661	18.3	<u>661</u>	<u>18.3</u>	658	18.4
462.libquantum	321	64.6	<u>321</u>	<u>64.5</u>	321	64.5	321	64.6	<u>321</u>	<u>64.5</u>	321	64.5
464.h264ref	784	28.2	788	28.1	<u>785</u>	<u>28.2</u>	739	29.9	740	29.9	<u>740</u>	<u>29.9</u>
471.omnetpp	495	12.6	<u>496</u>	<u>12.6</u>	498	12.6	<u>448</u>	<u>13.9</u>	447	14.0	449	13.9
473.astar	620	11.3	626	11.2	<u>621</u>	<u>11.3</u>	<u>548</u>	<u>12.8</u>	548	12.8	548	12.8
483.xalancbmk	331	20.8	332	20.8	<u>332</u>	<u>20.8</u>	331	20.8	332	20.8	<u>332</u>	<u>20.8</u>

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

## General Notes

Hardware Sector Prefetch Enable and Adjacent Sector Prefetch Enable  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to "physical,0"

## 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

## Base Optimization Flags

C benchmarks:  
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/066/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/066/bin/intel64/icc

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -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:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -auto-ilp32 -opt-prefetch  
-ansi-alias

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## Peak Optimization Flags (Continued)

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090902.xml>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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