



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

## SPECint®\_rate2006 = 113

## IBM System x3500 (Intel Xeon E5410)

## SPECint\_rate\_base2006 = 92.8

CPU2006 license: 11

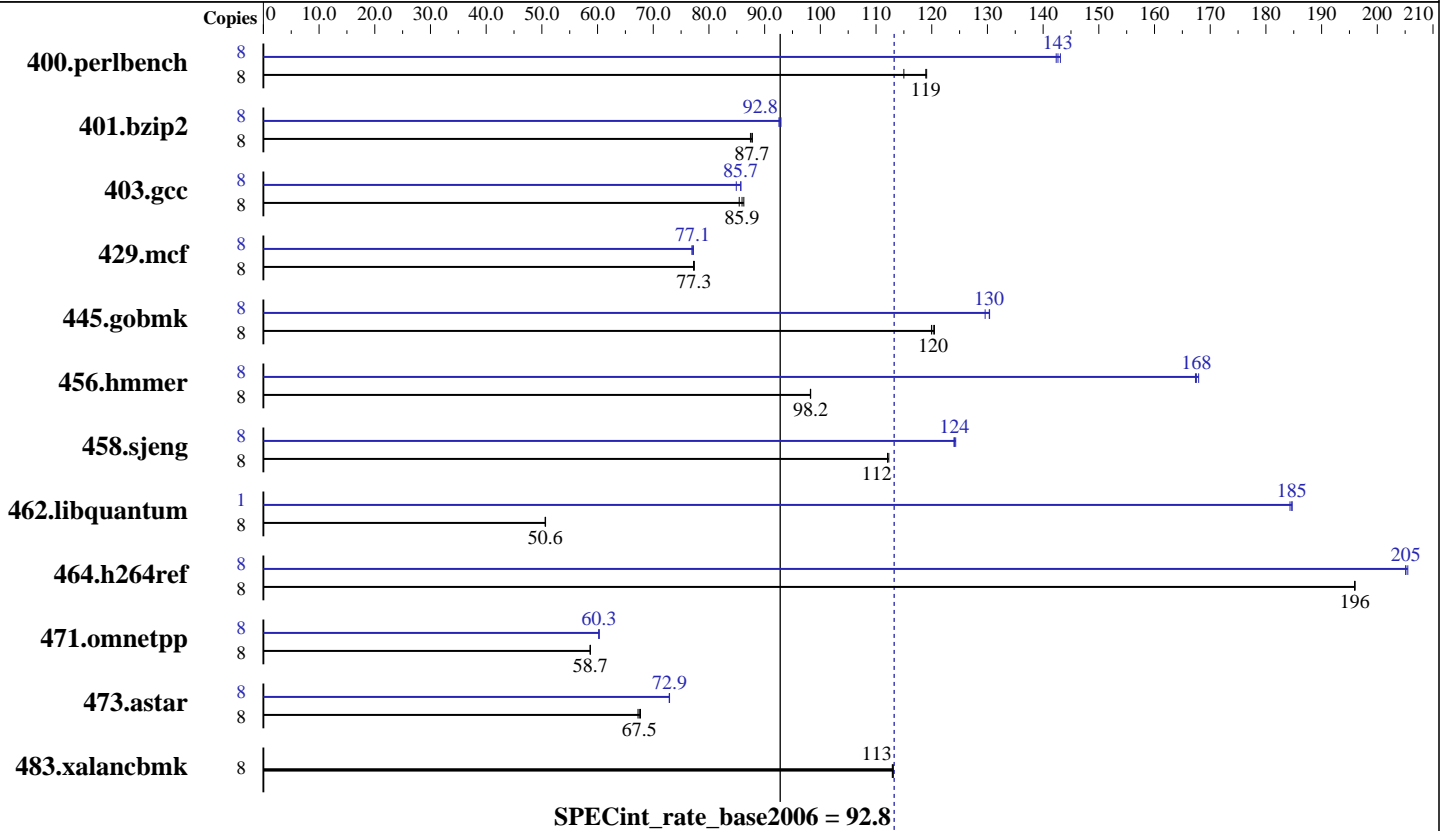
Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5410  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2333  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)  
 Disk Subsystem: 1 x 80 GB SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64), Kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint\_rate2006 = 113

IBM System x3500 (Intel Xeon E5410)

SPECint\_rate\_base2006 = 92.8

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

## Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	680	115	656	119	<b>657</b>	<b>119</b>	8	549	142	<b>548</b>	<b>143</b>	546	143
401.bzip2	8	879	87.8	<b>880</b>	<b>87.7</b>	883	87.5	8	<b>832</b>	<b>92.8</b>	834	92.6	831	92.9
403.gcc	8	754	85.4	747	86.3	<b>749</b>	<b>85.9</b>	8	758	84.9	751	85.7	<b>751</b>	<b>85.7</b>
429.mcf	8	<b>944</b>	<b>77.3</b>	945	77.2	943	77.4	8	945	77.2	948	76.9	<b>946</b>	<b>77.1</b>
445.gobmk	8	696	120	<b>698</b>	<b>120</b>	700	120	8	648	130	644	130	<b>644</b>	<b>130</b>
456.hammer	8	760	98.3	<b>760</b>	<b>98.2</b>	760	98.2	8	444	168	<b>446</b>	<b>168</b>	446	167
458.sjeng	8	<b>864</b>	<b>112</b>	862	112	864	112	8	<b>780</b>	<b>124</b>	781	124	779	124
462.libquantum	8	<b>3275</b>	<b>50.6</b>	3272	50.7	3275	50.6	1	112	185	112	184	<b>112</b>	<b>185</b>
464.h264ref	8	<b>904</b>	<b>196</b>	904	196	903	196	8	<b>863</b>	<b>205</b>	863	205	862	205
471.omnetpp	8	<b>852</b>	<b>58.7</b>	852	58.7	852	58.7	8	830	60.2	829	60.3	<b>830</b>	<b>60.3</b>
473.astar	8	835	67.3	<b>832</b>	<b>67.5</b>	829	67.7	8	771	72.9	<b>770</b>	<b>72.9</b>	770	72.9
483.xalancbmk	8	<b>489</b>	<b>113</b>	489	113	488	113	8	<b>489</b>	<b>113</b>	489	113	488	113

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.hammer, for peak, are compiled in 64-bit mode  
Hardware Sector Prefetch Enabled and Adjacent Sector Prefetch Disabled  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to physical,0  
KMP\_STACKSIZE set to 64M  
taskset utility used to bind CPU(s) to processes  
This result is measured on an IBM System x3500 Server. Note that the IBM System x3500 and IBM System x3400 are electrically equivalent.

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint\_rate2006 = 113

IBM System x3500 (Intel Xeon E5410)

SPECint\_rate\_base2006 = 92.8

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

## Base Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-fast -inline-calloc -opt-malloc-options=3

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.hmmr: /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.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmr: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint\_rate2006 = 113

IBM System x3500 (Intel Xeon E5410)

SPECint\_rate\_base2006 = 92.8

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

## Peak Optimization Flags

C benchmarks:

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

403.gcc: -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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint\_rate2006 = 113

IBM System x3500 (Intel Xeon E5410)

SPECint\_rate\_base2006 = 92.8

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

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.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
Report generated on Thu Jul 24 16:25:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 15 April 2008.