



# SPEC® CINT2006 Result

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## IBM Corporation

**SPECint®2006 = 28.8**

## IBM System x3500 (Intel Xeon X5260)

**SPECint\_base2006 = 25.3**

CPU2006 license: 11

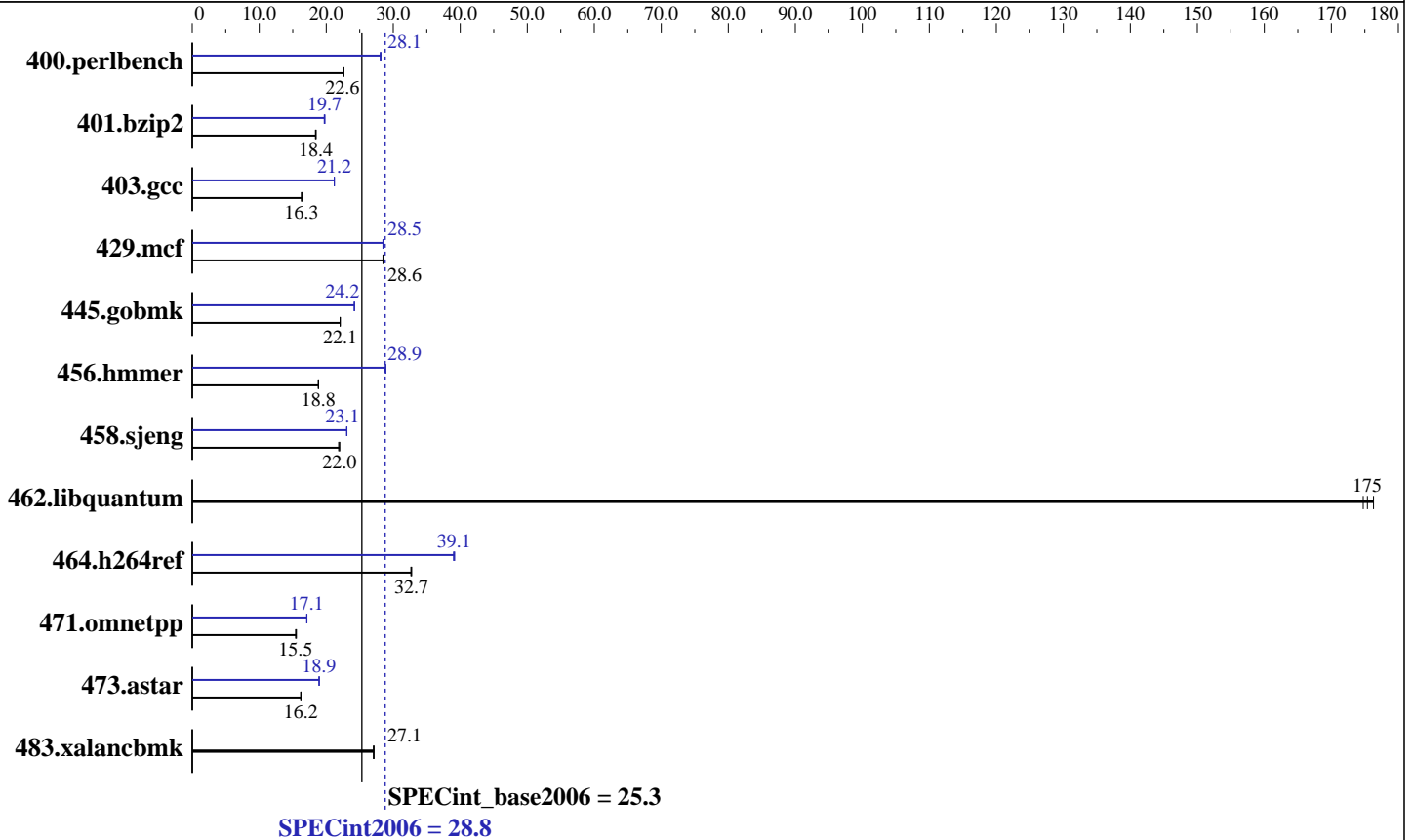
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2008

Hardware Availability: Nov-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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: 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) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 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	432	22.6	<b><u>432</u></b>	<b><u>22.6</u></b>	433	22.6	<b><u>347</u></b>	<b><u>28.1</u></b>	348	28.1	347	28.2
401.bzip2	522	18.5	525	18.4	<b><u>523</u></b>	<b><u>18.4</u></b>	<b><u>489</u></b>	<b><u>19.7</u></b>	490	19.7	487	19.8
403.gcc	<b><u>493</u></b>	<b><u>16.3</u></b>	493	16.3	492	16.4	380	21.2	<b><u>380</u></b>	<b><u>21.2</u></b>	380	21.2
429.mcf	320	28.5	319	28.6	<b><u>319</u></b>	<b><u>28.6</u></b>	320	28.5	<b><u>320</u></b>	<b><u>28.5</u></b>	320	28.5
445.gobmk	475	22.1	475	22.1	<b><u>475</u></b>	<b><u>22.1</u></b>	434	24.2	433	24.2	<b><u>433</u></b>	<b><u>24.2</u></b>
456.hmmr	496	18.8	495	18.8	<b><u>495</u></b>	<b><u>18.8</u></b>	323	28.9	<b><u>323</u></b>	<b><u>28.9</u></b>	324	28.8
458.sjeng	<b><u>551</u></b>	<b><u>22.0</u></b>	550	22.0	554	21.9	524	23.1	<b><u>525</u></b>	<b><u>23.1</u></b>	525	23.0
462.libquantum	119	175	<b><u>118</u></b>	<b><u>175</u></b>	118	176	119	175	<b><u>118</u></b>	<b><u>175</u></b>	118	176
464.h264ref	<b><u>676</u></b>	<b><u>32.7</u></b>	676	32.7	678	32.6	565	39.2	<b><u>566</u></b>	<b><u>39.1</u></b>	568	39.0
471.omnetpp	<b><u>404</u></b>	<b><u>15.5</u></b>	402	15.6	404	15.5	<b><u>366</u></b>	<b><u>17.1</u></b>	365	17.1	366	17.1
473.astar	433	16.2	<b><u>433</u></b>	<b><u>16.2</u></b>	433	16.2	370	18.9	371	18.9	<b><u>371</u></b>	<b><u>18.9</u></b>
483.xalancbmk	<b><u>255</u></b>	<b><u>27.1</u></b>	255	27.0	254	27.1	<b><u>255</u></b>	<b><u>27.1</u></b>	255	27.0	254	27.1

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

## General Notes

OMP\_NUM\_THREADS set to number of processors

KMP\_AFFINITY set to "physical,0"

Hardware Prefetch Enabled, Adjacent Sector Prefetch Enabled

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## 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:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.1 -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/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

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:

Continued on next page



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## Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -auto-ilp32 -opt-prefetch  
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmcr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -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) -xSSE4.1 -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 files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.11.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.03.html>



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You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.11.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.03.xml>

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

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