



# SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 14.3

IBM System x3550 (Intel Xeon E5310)

SPECint\_base2006 = 12.2

CPU2006 license: 11

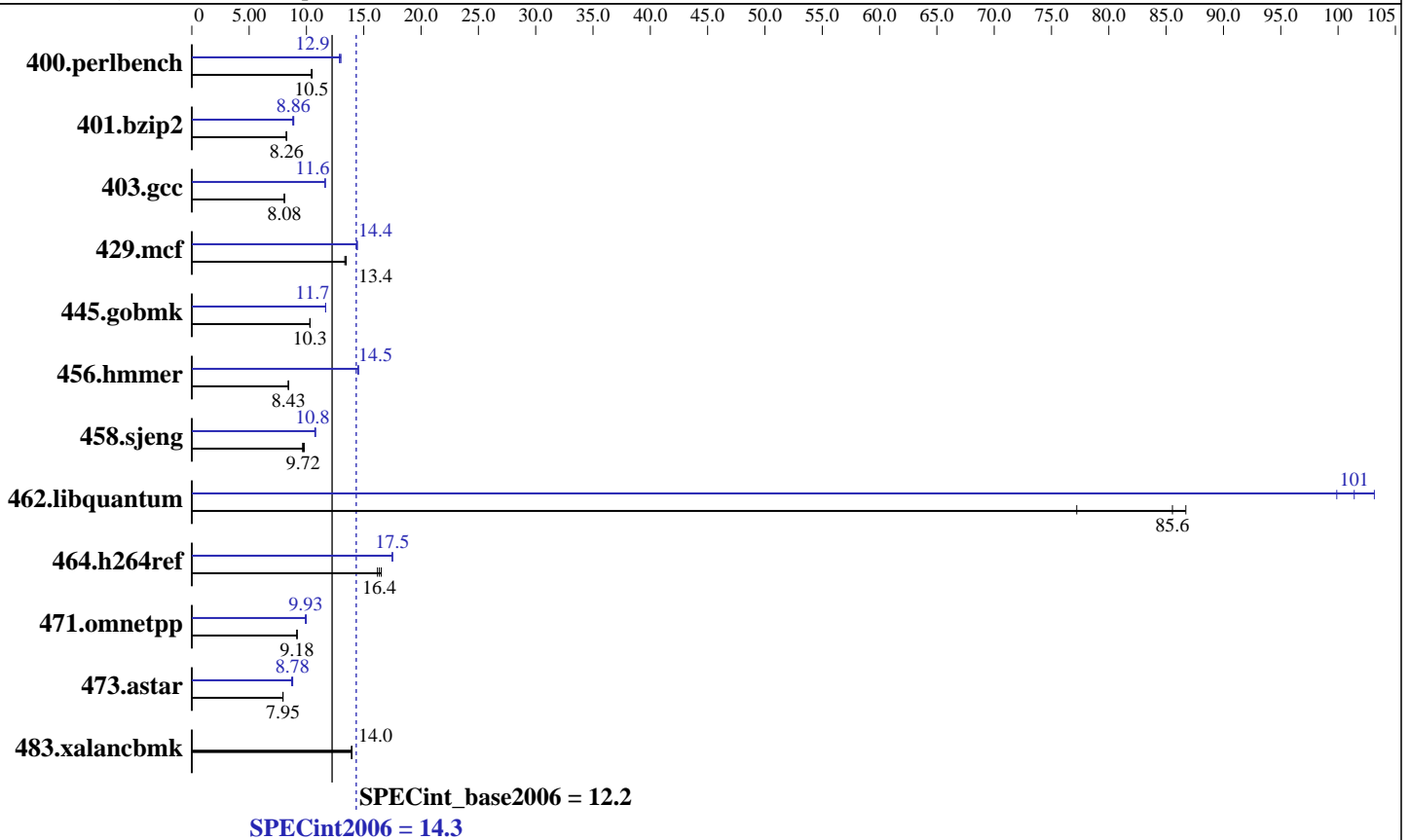
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Sep-2007

Hardware Availability: Dec-2006

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Xeon E5310  
 CPU Characteristics: 1066MHz system bus  
 CPU MHz: 1600  
 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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 x 2GB DRR2-5300F ECC)  
 Disk Subsystem: 1 x 36 GB SAS, 15000 RPM  
 Other Hardware: None

## Software

Operating System: SLES 10 (x86\_64), 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for Linux version 10.1 Build 20070824  
 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



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>935</u>	<u>10.5</u>	931	10.5	937	10.4	758	12.9	<u>756</u>	<u>12.9</u>	751	13.0
401.bzip2	1172	8.23	<u>1169</u>	<u>8.26</u>	1165	8.28	<u>1089</u>	<u>8.86</u>	1096	8.81	1085	8.89
403.gcc	998	8.07	<u>996</u>	<u>8.08</u>	996	8.08	<u>692</u>	<u>11.6</u>	692	11.6	693	11.6
429.mcf	677	13.5	683	13.3	<u>679</u>	<u>13.4</u>	634	14.4	631	14.4	<u>633</u>	<u>14.4</u>
445.gobmk	1018	10.3	<u>1017</u>	<u>10.3</u>	1017	10.3	899	11.7	898	11.7	<u>899</u>	<u>11.7</u>
456.hammer	1110	8.41	1106	8.44	<u>1106</u>	<u>8.43</u>	<u>643</u>	<u>14.5</u>	642	14.5	643	14.5
458.sjeng	<u>1245</u>	<u>9.72</u>	1232	9.82	1252	9.66	1127	10.7	1121	10.8	<u>1123</u>	<u>10.8</u>
462.libquantum	239	86.7	268	77.2	<u>242</u>	<u>85.6</u>	201	103	207	99.9	<u>204</u>	<u>101</u>
464.h264ref	1367	16.2	<u>1353</u>	<u>16.4</u>	1339	16.5	1264	17.5	<u>1265</u>	<u>17.5</u>	1265	17.5
471.omnetpp	<u>681</u>	<u>9.18</u>	681	9.18	682	9.17	<u>629</u>	<u>9.93</u>	626	9.98	630	9.92
473.astar	884	7.94	<u>883</u>	<u>7.95</u>	882	7.96	<u>800</u>	<u>8.78</u>	807	8.70	798	8.80
483.xalancbmk	494	14.0	495	13.9	<u>495</u>	<u>14.0</u>	494	14.0	495	13.9	<u>495</u>	<u>14.0</u>

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 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:  
-fast -vec-guard-write -opt-malloc-options=3 -parallel  
-par-runtime-control

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/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: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/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:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

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## Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

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  
-auto-ilp32

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/home/cmplr/usr3/alrahate/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/home/cmplr/usr3/alrahate/cpu2006.1.0/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-ic10-ia32-intel64-linux-flags.20090714.28.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.28.xml>



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<b>Tested by:</b> IBM Corporation	<b>Software Availability:</b> Nov-2007

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

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