



# SPEC<sup>®</sup> CINT2006 Result

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IBM Corporation

SPECint<sup>®</sup>2006 = 15.4

IBM System x3650 (Intel Xeon 5130)

SPECint\_base2006 = 14.1

CPU2006 license: 11

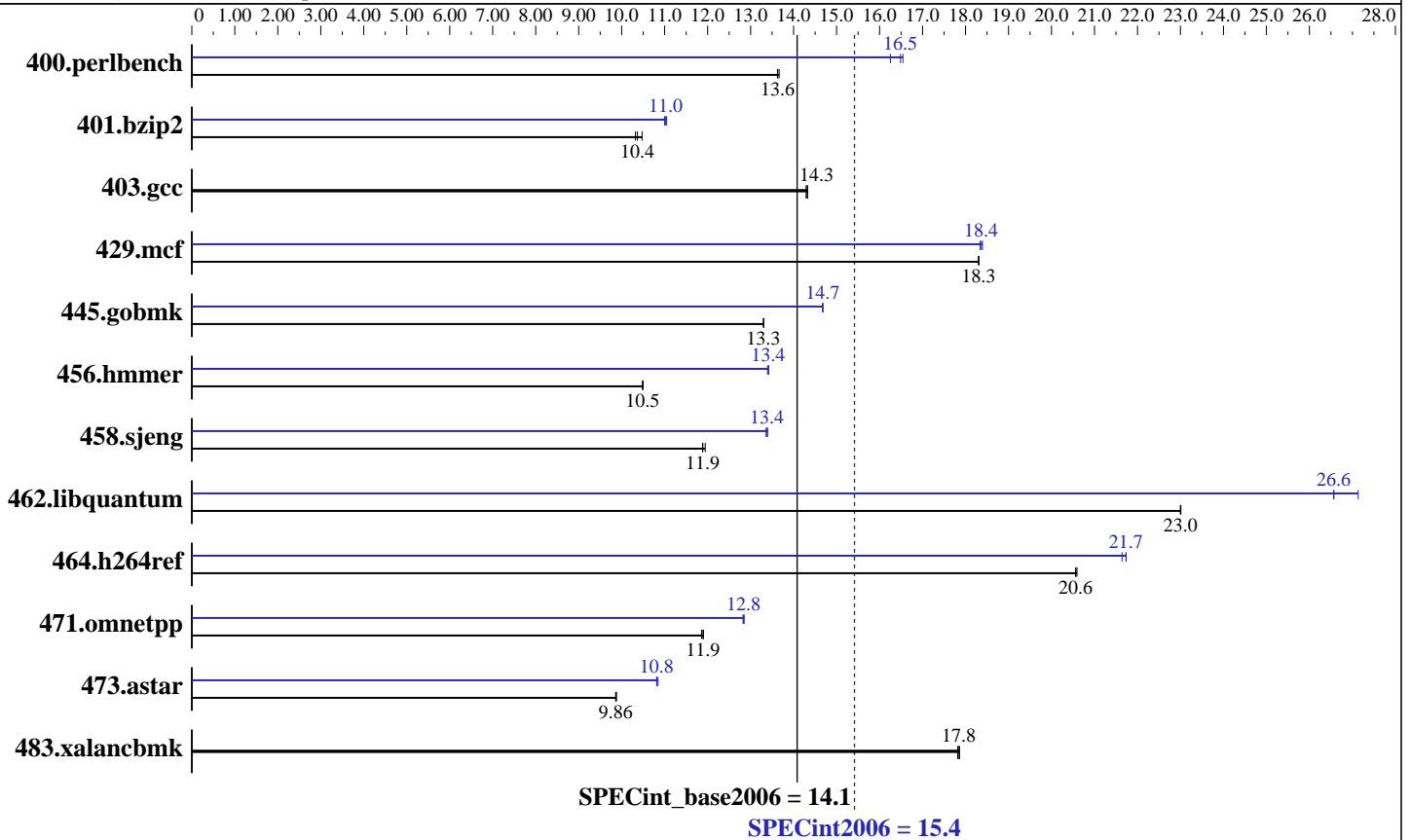
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jul-2007

Hardware Availability: Jul-2006

Software Availability: Jul-2007



## Hardware

CPU Name: Intel Xeon 5130  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2000  
 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: 4 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 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 10.0  
 Build 20070426 Package ID: 1\_cc\_p\_10.0.023  
 Auto Parallel: No  
 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	715	13.7	<u>717</u>	<u>13.6</u>	717	13.6	591	16.5	601	16.3	<u>593</u>	<u>16.5</u>
401.bzip2	921	10.5	<u>931</u>	<u>10.4</u>	935	10.3	877	11.0	874	11.0	<u>875</u>	<u>11.0</u>
403.gcc	562	14.3	563	14.3	<u>562</u>	<u>14.3</u>	562	14.3	563	14.3	<u>562</u>	<u>14.3</u>
429.mcf	498	18.3	<u>498</u>	<u>18.3</u>	498	18.3	497	18.3	<u>497</u>	<u>18.4</u>	496	18.4
445.gobmk	<u>789</u>	<u>13.3</u>	789	13.3	789	13.3	715	14.7	<u>715</u>	<u>14.7</u>	715	14.7
456.hmmmer	890	10.5	889	10.5	<u>889</u>	<u>10.5</u>	695	13.4	<u>696</u>	<u>13.4</u>	697	13.4
458.sjeng	<u>1018</u>	<u>11.9</u>	1018	11.9	1013	11.9	906	13.4	903	13.4	<u>904</u>	<u>13.4</u>
462.libquantum	901	23.0	900	23.0	<u>901</u>	<u>23.0</u>	780	26.6	<u>780</u>	<u>26.6</u>	764	27.1
464.h264ref	1075	20.6	<u>1076</u>	<u>20.6</u>	1076	20.6	<u>1018</u>	<u>21.7</u>	1023	21.6	1018	21.7
471.omnetpp	527	11.9	<u>526</u>	<u>11.9</u>	525	11.9	487	12.8	486	12.8	<u>487</u>	<u>12.8</u>
473.astar	<u>712</u>	<u>9.86</u>	712	9.86	711	9.88	647	10.8	<u>649</u>	<u>10.8</u>	649	10.8
483.xalancbmk	386	17.9	387	17.8	<u>387</u>	<u>17.8</u>	386	17.9	387	17.8	<u>387</u>	<u>17.8</u>

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

## 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

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



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## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

C++ benchmarks:

icpc

## Peak Portability Flags

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

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

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec\_div -ansi-alias

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## Peak Optimization Flags (Continued)

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0  
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

### C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec\_div -ansi-alias -Wl,-z,muldefs  
-L/spec/cpu2006.1.0/lib -lsmartheap

473.astar: Same as 471.omnetpp

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.20090714.44.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.20090714.44.xml>

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

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