



# SPEC® CINT2006 Result

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## IBM Corporation

**SPECint®2006 = 15.5**

IBM BladeCenter HS21 XM (Intel Xeon E5335)

**SPECint\_base2006 = 14.0**

CPU2006 license: 11

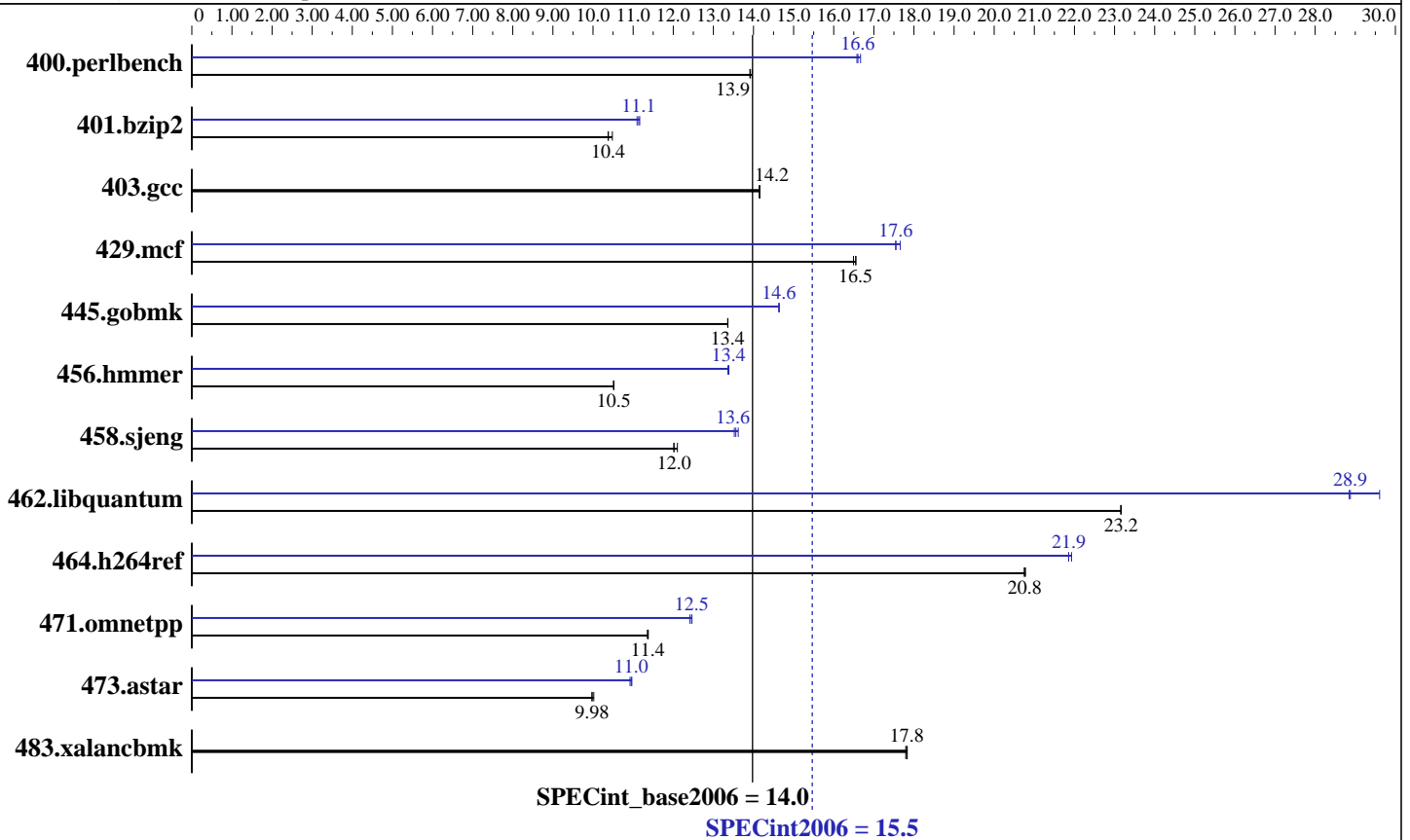
Test date: Jul-2007

Test sponsor: IBM Corporation

Hardware Availability: Feb-2007

Tested by: IBM Corporation

Software Availability: Jul-2007



### Hardware

CPU Name: Intel Xeon E5335  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2000  
 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 DDR2-5300F ECC)  
 Disk Subsystem: 1 x 36 GB SAS, 10000 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	702	13.9	<b>702</b>	<b>13.9</b>	700	14.0	<b>588</b>	<b>16.6</b>	589	16.6	586	16.7
401.bzip2	921	10.5	930	10.4	<b>929</b>	<b>10.4</b>	864	11.2	<b>866</b>	<b>11.1</b>	870	11.1
403.gcc	569	14.1	<b>569</b>	<b>14.2</b>	569	14.2	569	14.1	<b>569</b>	<b>14.2</b>	569	14.2
429.mcf	551	16.6	<b>551</b>	<b>16.5</b>	553	16.5	516	17.7	520	17.5	<b>520</b>	<b>17.6</b>
445.gobmk	<b>785</b>	<b>13.4</b>	785	13.4	785	13.4	<b>717</b>	<b>14.6</b>	717	14.6	717	14.6
456.hammer	<b>887</b>	<b>10.5</b>	887	10.5	887	10.5	<b>697</b>	<b>13.4</b>	697	13.4	698	13.4
458.sjeng	1000	12.1	1007	12.0	<b>1007</b>	<b>12.0</b>	<b>892</b>	<b>13.6</b>	895	13.5	888	13.6
462.libquantum	895	23.2	<b>895</b>	<b>23.2</b>	895	23.2	700	29.6	<b>717</b>	<b>28.9</b>	718	28.8
464.h264ref	<b>1066</b>	<b>20.8</b>	1065	20.8	1067	20.7	1009	21.9	1013	21.9	<b>1012</b>	<b>21.9</b>
471.omnetpp	<b>550</b>	<b>11.4</b>	550	11.4	549	11.4	<b>502</b>	<b>12.5</b>	501	12.5	504	12.4
473.astar	<b>704</b>	<b>9.98</b>	704	9.97	701	10.0	<b>641</b>	<b>11.0</b>	640	11.0	643	10.9
483.xalancbmk	387	17.8	388	17.8	<b>387</b>	<b>17.8</b>	387	17.8	388	17.8	<b>387</b>	<b>17.8</b>

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.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

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.hmmcr: -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.hmmcr

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).

Tested with SPEC CPU2006 v1.0.

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