



# SPEC® CINT2006 Result

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## IBM Corporation

### SPECint®\_rate2006 = 91.5

### IBM BladeCenter HS21 (Intel Xeon E5335)

### SPECint\_rate\_base2006 = 77.5

CPU2006 license: 11

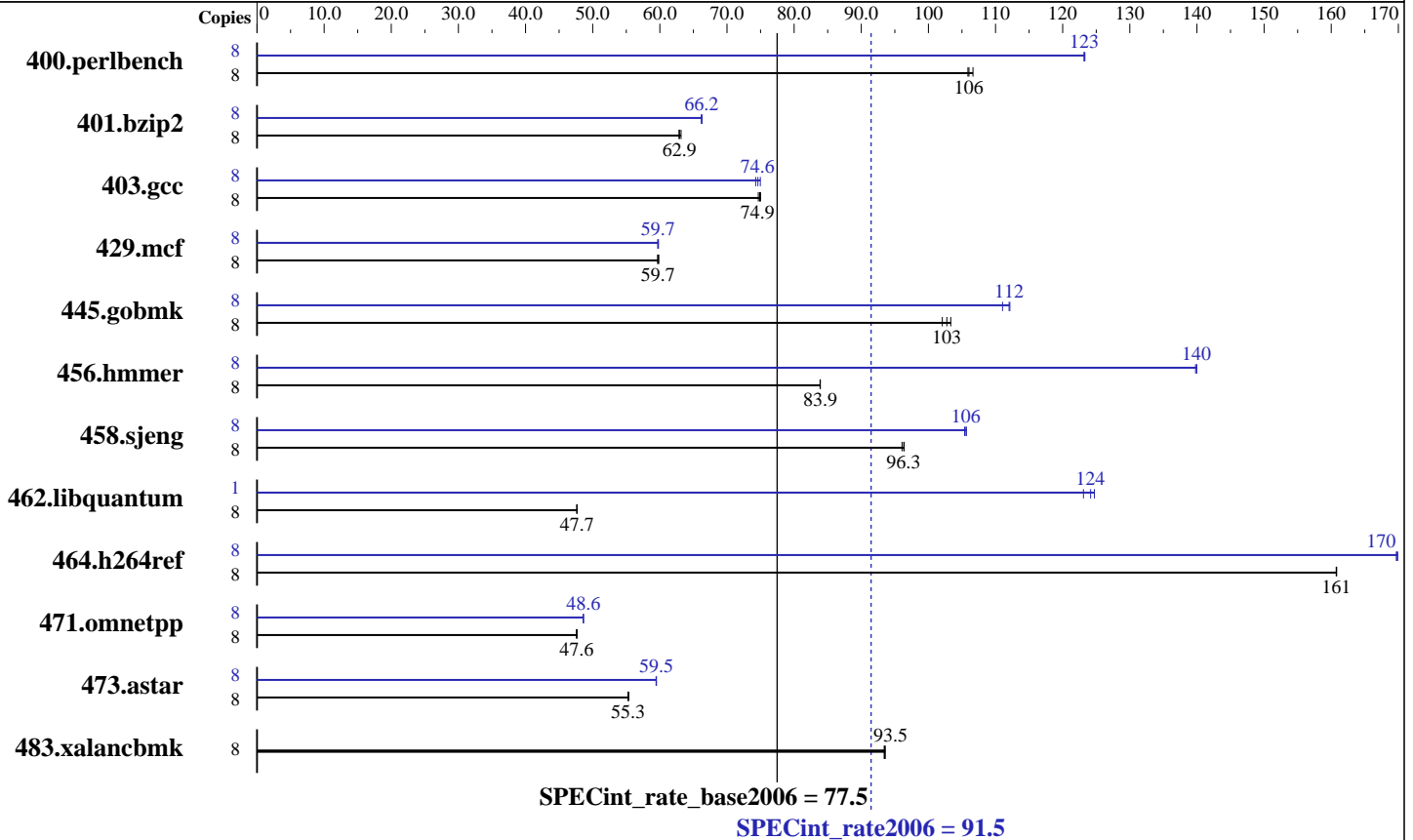
Test date: Aug-2007

Test sponsor: IBM Corporation

Hardware Availability: Feb-2007

Tested by: IBM Corporation

Software Availability: Nov-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 2 GB DDR2-5300F ECC)  
 Disk Subsystem: 1 x 36 GB SAS, 10000 RPM  
 Other Hardware: Memory and I/O Expansion Unit (P/N 42C1600)

#### Software

Operating System: SLES 10 (x86\_64), 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for Linux version 10.1 Build 20070725  
 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							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	738	106	<u>737</u>	<u>106</u>	733	107	8	<u>634</u>	<u>123</u>	634	123	634	123
401.bzip2	8	1228	62.9	1222	63.2	<u>1227</u>	<u>62.9</u>	8	1166	66.2	<u>1166</u>	<u>66.2</u>	1165	66.3
403.gcc	8	863	74.7	859	75.0	<u>860</u>	<u>74.9</u>	8	<u>863</u>	<u>74.6</u>	859	75.0	867	74.3
429.mcf	8	1219	59.8	<u>1221</u>	<u>59.7</u>	1223	59.7	8	1222	59.7	1220	59.8	<u>1222</u>	<u>59.7</u>
445.gobmk	8	<u>817</u>	<u>103</u>	812	103	822	102	8	<u>749</u>	<u>112</u>	748	112	756	111
456.hammer	8	<u>890</u>	<u>83.9</u>	890	83.9	890	83.9	8	533	140	534	140	<u>533</u>	<u>140</u>
458.sjeng	8	1004	96.4	1008	96.1	<u>1005</u>	<u>96.3</u>	8	918	105	<u>917</u>	<u>106</u>	916	106
462.libquantum	8	3479	47.6	<u>3479</u>	<u>47.7</u>	3478	47.7	1	168	123	166	125	<u>167</u>	<u>124</u>
464.h264ref	8	<u>1101</u>	<u>161</u>	1101	161	1101	161	8	1042	170	1043	170	<u>1043</u>	<u>170</u>
471.omnetpp	8	1049	47.7	1051	47.6	<u>1050</u>	<u>47.6</u>	8	1029	48.6	1028	48.6	<u>1029</u>	<u>48.6</u>
473.astar	8	<u>1016</u>	<u>55.3</u>	1014	55.4	1016	55.3	8	944	59.5	<u>944</u>	<u>59.5</u>	945	59.4
483.xalancbmk	8	<u>590</u>	<u>93.5</u>	590	93.6	591	93.4	8	<u>590</u>	<u>93.5</u>	590	93.6	591	93.4

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  
KMP\_STACKSIZE set to 64M

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

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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/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/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

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/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.20090714.02.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.20090714.02.xml>



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

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