



# SPEC<sup>®</sup> CINT2006 Result

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IBM Corporation

SPECint<sup>®</sup>\_rate2006 = 65.3

IBM System x3550 (Intel Xeon 5160)

SPECint\_rate\_base2006 = 60.8

CPU2006 license: 11

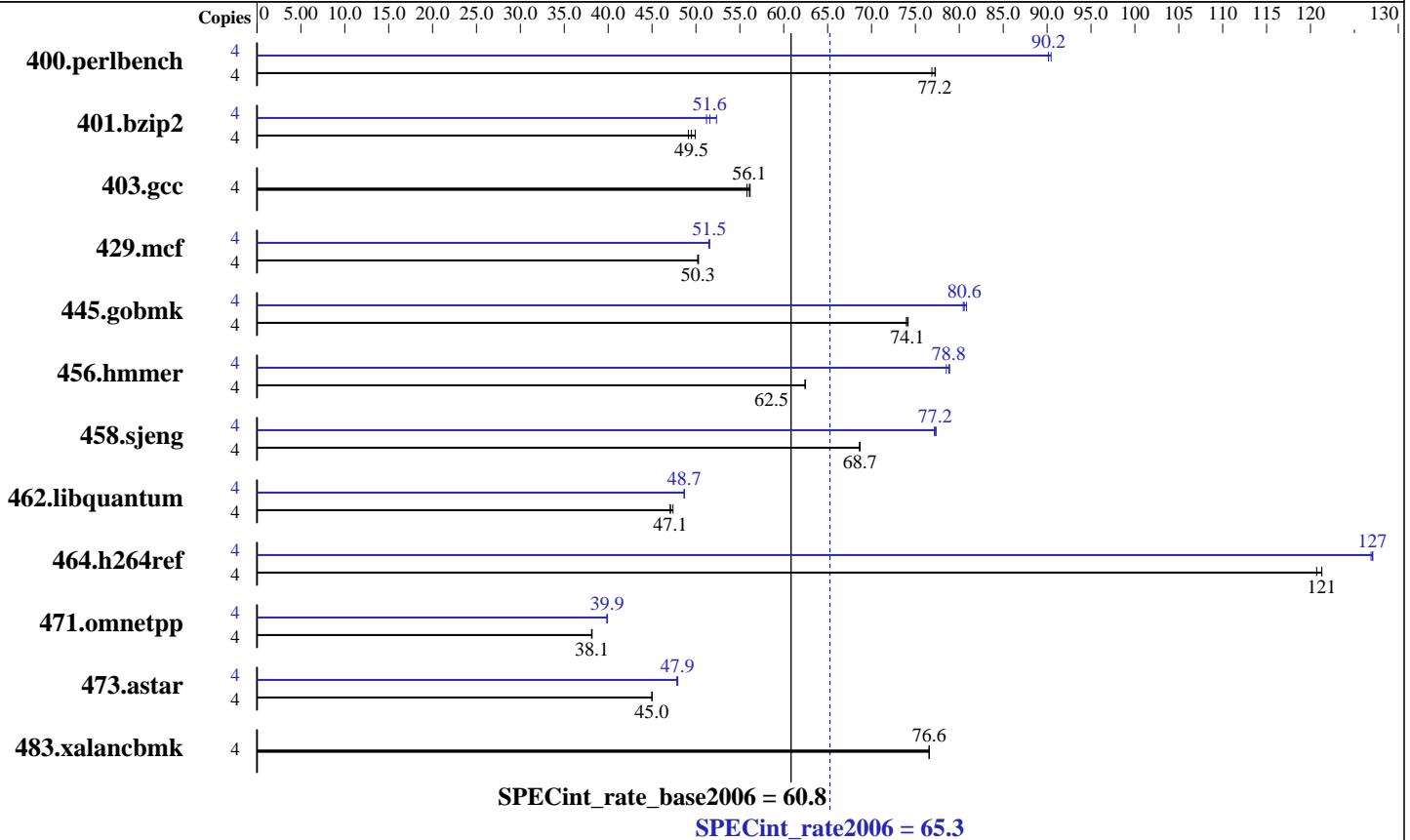
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jul-2007

Hardware Availability: Jul-2006

Software Availability: Jul-2007



## Hardware

CPU Name: Intel Xeon 5160  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3000  
 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 2GB 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	508	76.9	<b>506</b>	<b>77.2</b>	506	77.3	4	<b>433</b>	<b>90.2</b>	432	90.5	434	90.1
401.bzip2	4	773	49.9	786	49.1	<b>780</b>	<b>49.5</b>	4	737	52.3	<b>748</b>	<b>51.6</b>	754	51.2
403.gcc	4	<b>574</b>	<b>56.1</b>	577	55.8	573	56.2	4	<b>574</b>	<b>56.1</b>	577	55.8	573	56.2
429.mcf	4	<b>726</b>	<b>50.3</b>	727	50.2	725	50.3	4	<b>708</b>	<b>51.5</b>	708	51.6	709	51.5
445.gobmk	4	<b>566</b>	<b>74.1</b>	567	74.0	566	74.2	4	522	80.5	<b>521</b>	<b>80.6</b>	519	80.8
456.hammer	4	598	62.4	597	62.5	<b>597</b>	<b>62.5</b>	4	<b>474</b>	<b>78.8</b>	475	78.5	473	78.9
458.sjeng	4	705	68.7	705	68.6	<b>705</b>	<b>68.7</b>	4	626	77.4	627	77.2	<b>627</b>	<b>77.2</b>
462.libquantum	4	<b>1760</b>	<b>47.1</b>	1749	47.4	1760	47.1	4	1702	48.7	<b>1703</b>	<b>48.7</b>	1704	48.6
464.h264ref	4	730	121	<b>730</b>	<b>121</b>	733	121	4	698	127	697	127	<b>697</b>	<b>127</b>
471.omnetpp	4	656	38.1	655	38.2	<b>655</b>	<b>38.1</b>	4	<b>627</b>	<b>39.9</b>	627	39.9	626	39.9
473.astar	4	<b>624</b>	<b>45.0</b>	624	45.0	624	45.0	4	586	47.9	587	47.8	<b>586</b>	<b>47.9</b>
483.xalancbmk	4	361	76.5	<b>360</b>	<b>76.6</b>	360	76.6	4	361	76.5	<b>360</b>	<b>76.6</b>	360	76.6

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

## General Notes

taskset utility used to bind CPU(s) to processes

## 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

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## Base Optimization Flags (Continued)

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/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: /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
```

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## Peak Optimization Flags (Continued)

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

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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