



# SPEC® CINT2006 Result

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## IBM Corporation

### SPECint®\_rate2006 = 85.6

### IBM System x iDataPlex dx340 (Intel Xeon X5260)

### SPECint\_rate\_base2006 = 80.1

CPU2006 license: 11

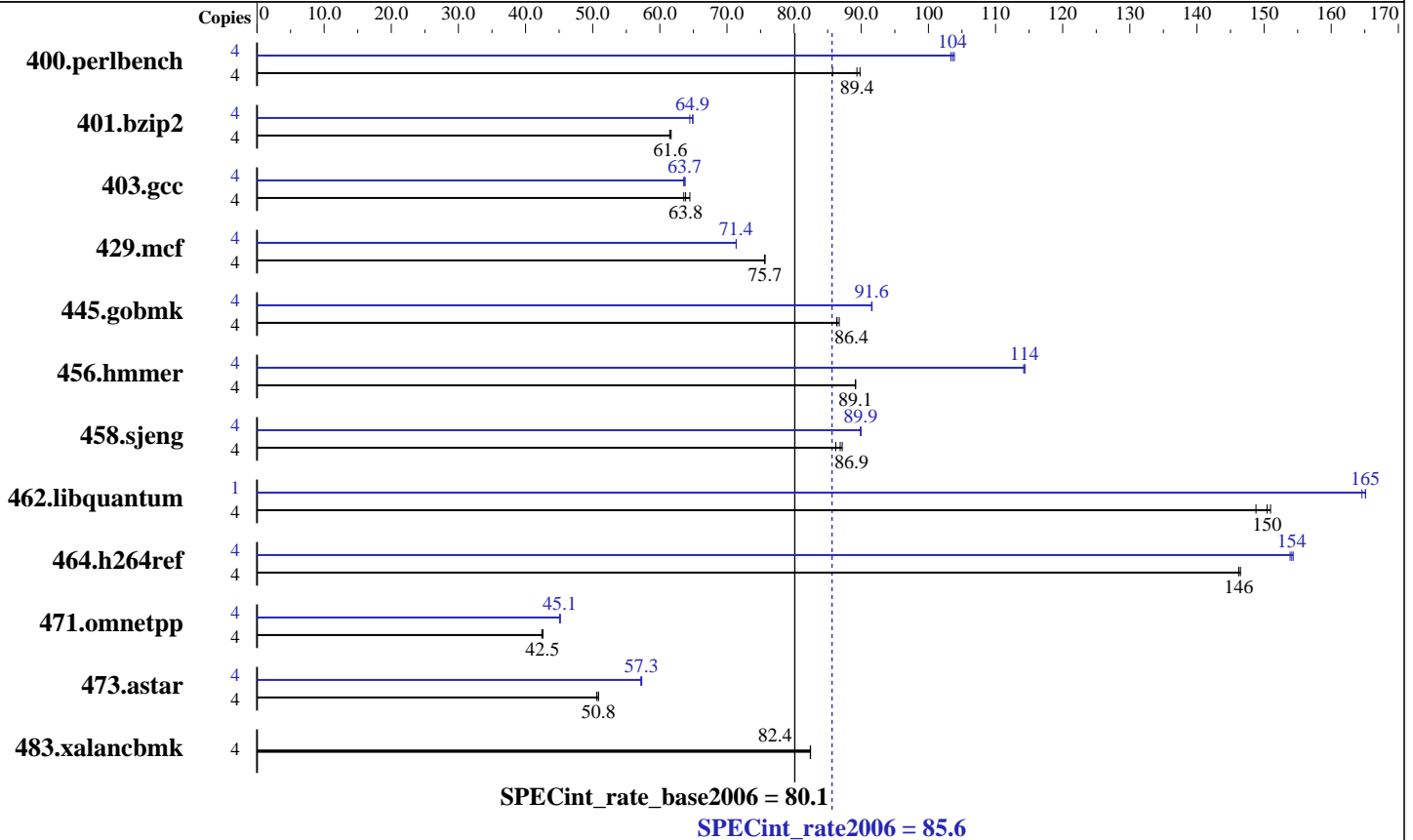
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2008

Hardware Availability: Oct-2008

Software Availability: Nov-2008



#### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3333  
 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: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (4 x 4 GB PC2-5300F ECC)  
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM  
 Other Hardware: None

#### Software

Operating System: SuSE Linux Enterprise Server 10(x86\_64) SP2, Kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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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	456	85.7	435	89.8	<b>437</b>	<b>89.4</b>	4	378	103	376	104	<b>377</b>	<b>104</b>
401.bzip2	4	628	61.5	<b>627</b>	<b>61.6</b>	626	61.7	4	599	64.5	<b>595</b>	<b>64.9</b>	594	64.9
403.gcc	4	507	63.6	<b>504</b>	<b>63.8</b>	499	64.5	4	505	63.8	<b>505</b>	<b>63.7</b>	507	63.6
429.mcf	4	<b>482</b>	<b>75.7</b>	483	75.6	482	75.7	4	511	71.4	511	71.4	<b>511</b>	<b>71.4</b>
445.gobmk	4	486	86.3	<b>486</b>	<b>86.4</b>	484	86.7	4	<b>458</b>	<b>91.6</b>	458	91.6	458	91.5
456.hammer	4	<b>419</b>	<b>89.1</b>	419	89.2	419	89.1	4	326	114	<b>326</b>	<b>114</b>	327	114
458.sjeng	4	555	87.2	561	86.2	<b>557</b>	<b>86.9</b>	4	538	90.0	538	89.9	<b>538</b>	<b>89.9</b>
462.libquantum	4	557	149	549	151	<b>551</b>	<b>150</b>	1	125	165	126	165	<b>126</b>	<b>165</b>
464.h264ref	4	605	146	<b>605</b>	<b>146</b>	604	146	4	<b>574</b>	<b>154</b>	574	154	575	154
471.omnetpp	4	589	42.4	587	42.6	<b>588</b>	<b>42.5</b>	4	554	45.1	<b>554</b>	<b>45.1</b>	553	45.2
473.astar	4	<b>552</b>	<b>50.8</b>	552	50.9	555	50.6	4	<b>490</b>	<b>57.3</b>	490	57.3	491	57.2
483.xalancbmk	4	335	82.5	<b>335</b>	<b>82.4</b>	335	82.4	4	335	82.5	<b>335</b>	<b>82.4</b>	335	82.4

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

## Submit Notes

The config file option 'submit' was used.

## General Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
taskset was used to bind processes to cores except
for 462.libquantum peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to null
Memory Configuration set to "Performance Optimized"
Hardware Prefetcher Enable and Adjacent Cache Line Prefetch Enable
```

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

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) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -parallel -par-runtime-control  
-opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes



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## 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-ic11.0-int-linux64-revA.20090805.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090805.00.xml>

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

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