



# SPEC® CINT2006 Result

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## IBM Corporation

**SPECint®2006 = 28.4**

IBM System x iDataPlex dx340 (Intel Xeon X5260)

**SPECint\_base2006 = 25.0**

CPU2006 license: 11

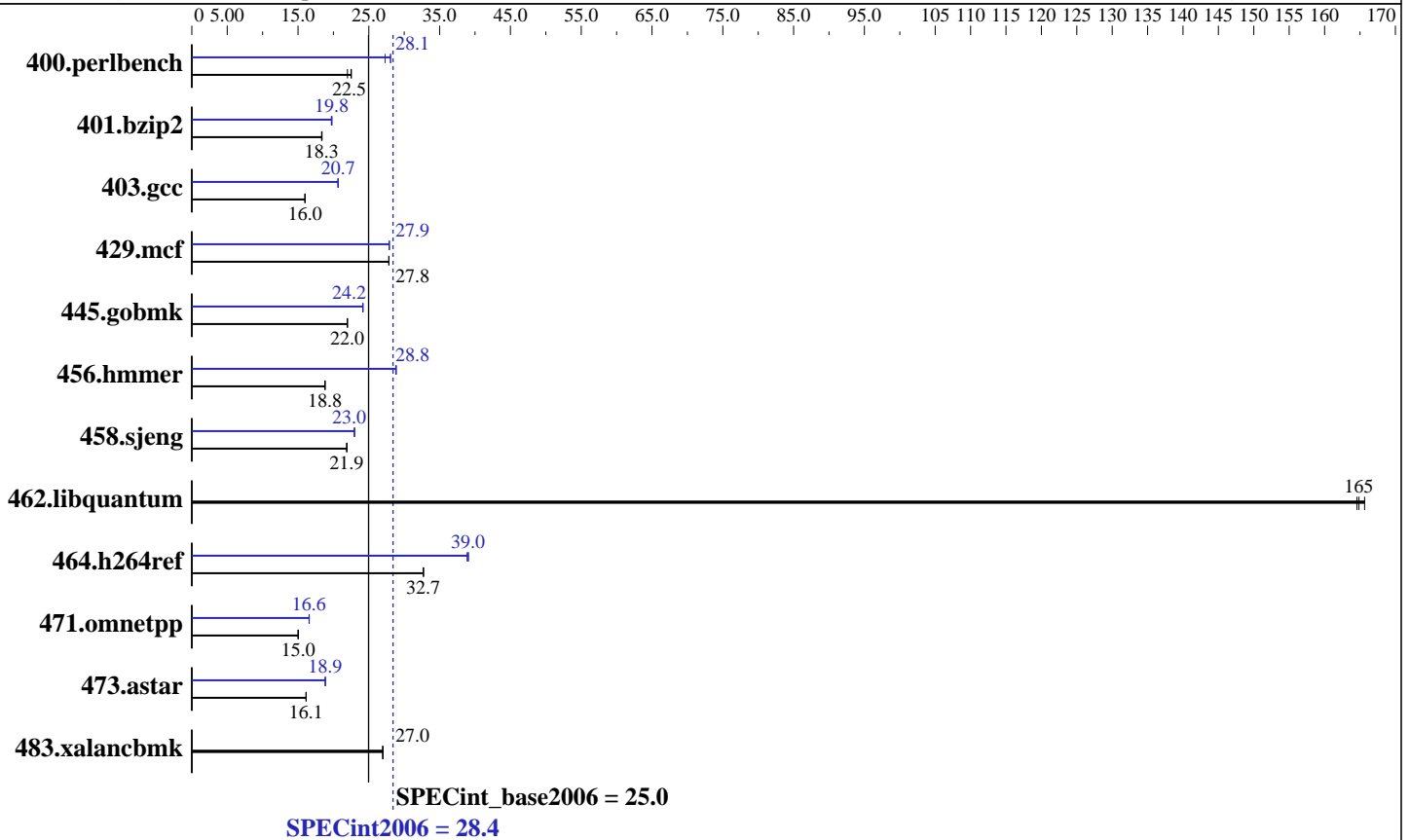
Test date: Oct-2008

Test sponsor: IBM Corporation

Hardware Availability: Oct-2008

Tested by: IBM Corporation

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 DDR2-5300F 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	444	22.0	<b>434</b>	<b>22.5</b>	434	22.5	358	27.3	348	28.1	<b>348</b>	<b>28.1</b>
401.bzip2	<b>526</b>	<b>18.3</b>	526	18.3	525	18.4	488	19.8	<b>488</b>	<b>19.8</b>	490	19.7
403.gcc	<b>504</b>	<b>16.0</b>	503	16.0	504	16.0	390	20.7	<b>390</b>	<b>20.7</b>	390	20.7
429.mcf	328	27.8	327	27.9	<b>328</b>	<b>27.8</b>	327	27.9	<b>327</b>	<b>27.9</b>	327	27.9
445.gobmk	477	22.0	<b>477</b>	<b>22.0</b>	478	22.0	434	24.2	<b>434</b>	<b>24.2</b>	434	24.2
456.hammer	496	18.8	<b>496</b>	<b>18.8</b>	496	18.8	323	28.9	<b>324</b>	<b>28.8</b>	324	28.8
458.sjeng	553	21.9	<b>553</b>	<b>21.9</b>	552	21.9	527	23.0	526	23.0	<b>527</b>	<b>23.0</b>
462.libquantum	126	165	<b>126</b>	<b>165</b>	125	166	126	165	<b>126</b>	<b>165</b>	125	166
464.h264ref	677	32.7	<b>677</b>	<b>32.7</b>	676	32.7	569	38.9	566	39.1	<b>567</b>	<b>39.0</b>
471.omnetpp	415	15.1	<b>416</b>	<b>15.0</b>	417	15.0	377	16.6	<b>377</b>	<b>16.6</b>	377	16.6
473.astar	<b>435</b>	<b>16.1</b>	435	16.1	435	16.2	<b>372</b>	<b>18.9</b>	372	18.9	373	18.8
483.xalanbmk	256	27.0	<b>256</b>	<b>27.0</b>	256	27.0	256	27.0	<b>256</b>	<b>27.0</b>	256	27.0

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 processors

KMP\_AFFINITY set to "physical,0"

Hardware Prefetch Enabled and Adjacent Sector Prefetch Enabled

Memory configuration set to "Performance Optimized"

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

462.libquantum: -DSPEC\_CPU\_LINUX

483.xalanbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -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  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

Continued on next page



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## Peak Optimization Flags (Continued)

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 -auto-ilp32 -opt-prefetch  
-ansi-alias

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

429.mcf: -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 -auto-ilp32

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

462.libquantum: basepeak = yes

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

## 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.20090713.15.html>



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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.20090713.15.xml>

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

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