



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 23.8

IBM System x3200 M2 (Intel Core 2 Duo E7400)

SPECint_base2006 = 21.4

CPU2006 license: 11

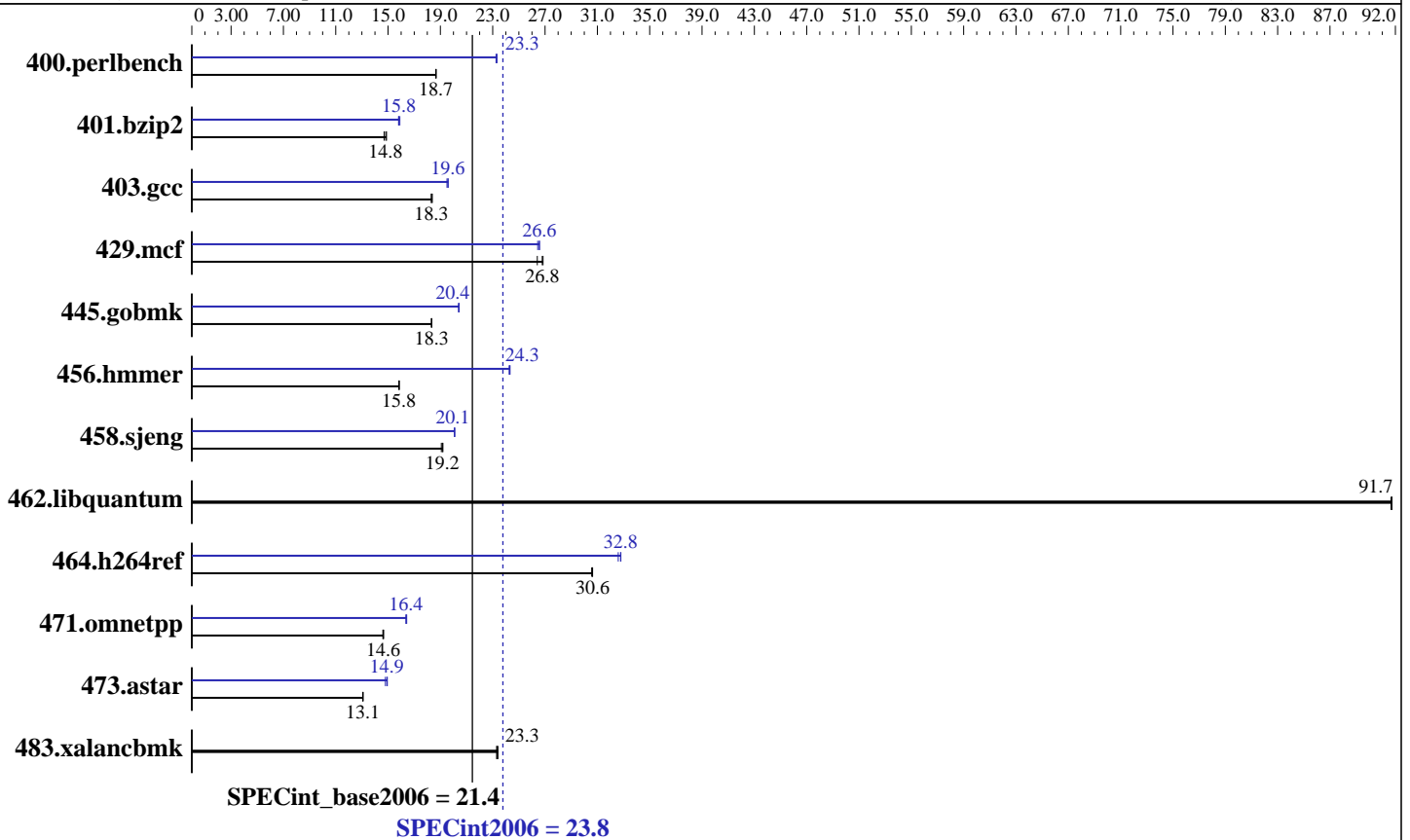
Test date: May-2009

Test sponsor: IBM Corporation

Hardware Availability: Apr-2009

Tested by: IBM Corporation

Software Availability: Nov-2008



Hardware

CPU Name: Intel Core 2 Duo E7400
 CPU Characteristics: 1067 MHz system bus
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 3 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 8 GB(4 x 2 GB DDR2-6400E ECC)
 Disk Subsystem: 1 x 250 GB SATA, 7200RPM
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10(x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066
 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	<u>524</u>	<u>18.7</u>	523	18.7	524	18.7	419	23.3	<u>419</u>	<u>23.3</u>	420	23.3
401.bzip2	657	14.7	648	14.9	<u>651</u>	<u>14.8</u>	611	15.8	607	15.9	<u>610</u>	<u>15.8</u>
403.gcc	438	18.4	440	18.3	<u>439</u>	<u>18.3</u>	411	19.6	<u>411</u>	<u>19.6</u>	413	19.5
429.mcf	345	26.4	340	26.8	<u>340</u>	<u>26.8</u>	<u>343</u>	<u>26.6</u>	343	26.6	345	26.4
445.gobmk	573	18.3	<u>572</u>	<u>18.3</u>	572	18.3	513	20.4	<u>514</u>	<u>20.4</u>	514	20.4
456.hammer	589	15.8	589	15.8	<u>589</u>	<u>15.8</u>	384	24.3	385	24.3	<u>384</u>	<u>24.3</u>
458.sjeng	630	19.2	634	19.1	<u>632</u>	<u>19.2</u>	<u>602</u>	<u>20.1</u>	602	20.1	603	20.1
462.libquantum	226	91.7	<u>226</u>	<u>91.7</u>	226	91.7	226	91.7	<u>226</u>	<u>91.7</u>	226	91.7
464.h264ref	722	30.6	<u>722</u>	<u>30.6</u>	724	30.6	675	32.8	<u>675</u>	<u>32.8</u>	679	32.6
471.omnetpp	<u>427</u>	<u>14.6</u>	426	14.7	428	14.6	381	16.4	382	16.4	<u>382</u>	<u>16.4</u>
473.astar	<u>537</u>	<u>13.1</u>	537	13.1	536	13.1	470	14.9	474	14.8	<u>471</u>	<u>14.9</u>
483.xalancbmk	295	23.4	<u>296</u>	<u>23.3</u>	296	23.3	295	23.4	<u>296</u>	<u>23.3</u>	296	23.3

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

General Notes

Hardware Sector Prefetch Enable and Adjacent Sector Prefetch Enable
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"

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:
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

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Base Optimization Flags (Continued)

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/11.0/066/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/066/bin/intel64/icc

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) -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

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Peak Optimization Flags (Continued)

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.20090902.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.20090902.xml>



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