



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 29.4

IBM System x3200 M2 (Intel Xeon X3380)

SPECint_base2006 = 26.2

CPU2006 license: 11

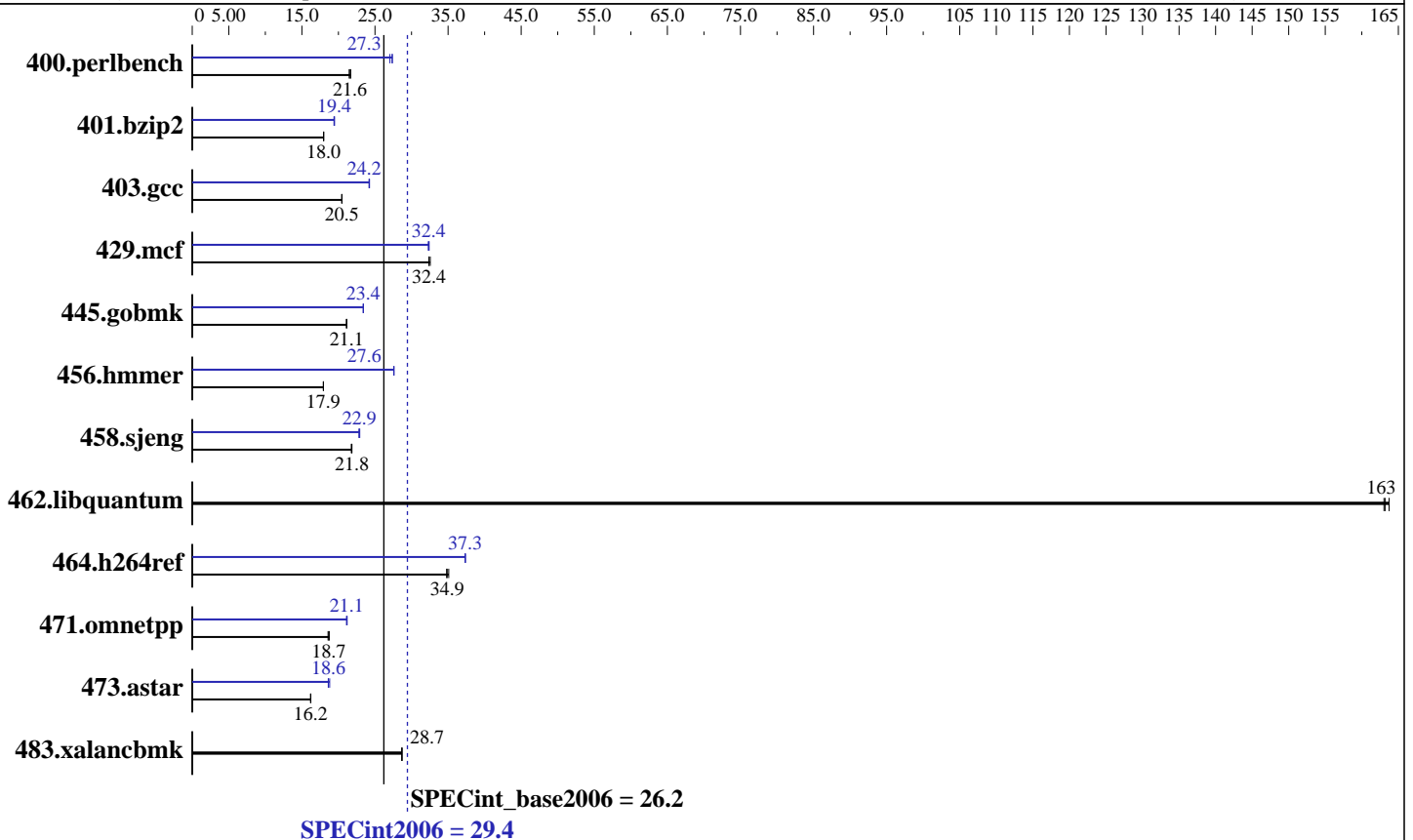
Test date: Apr-2009

Test sponsor: IBM Corporation

Hardware Availability: Jun-2009

Tested by: IBM Corporation

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon X3380
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 3167
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 8 GB (4 x 2 GB PC2-6400E ECC)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 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 Professional 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	455	21.5	451	21.7	<u>452</u>	<u>21.6</u>	357	27.4	<u>357</u>	<u>27.3</u>	361	27.0
401.bzip2	537	18.0	537	18.0	<u>537</u>	<u>18.0</u>	<u>496</u>	<u>19.4</u>	498	19.4	496	19.5
403.gcc	<u>393</u>	<u>20.5</u>	393	20.5	393	20.5	333	24.2	332	24.3	<u>332</u>	<u>24.2</u>
429.mcf	280	32.6	282	32.4	<u>282</u>	<u>32.4</u>	281	32.4	282	32.3	<u>282</u>	<u>32.4</u>
445.gobmk	497	21.1	497	21.1	<u>497</u>	<u>21.1</u>	<u>448</u>	<u>23.4</u>	448	23.4	448	23.4
456.hammer	520	17.9	<u>520</u>	<u>17.9</u>	520	17.9	338	27.6	<u>338</u>	<u>27.6</u>	338	27.6
458.sjeng	554	21.8	<u>554</u>	<u>21.8</u>	556	21.8	528	22.9	<u>529</u>	<u>22.9</u>	531	22.8
462.libquantum	127	163	<u>127</u>	<u>163</u>	127	164	127	163	<u>127</u>	<u>163</u>	127	164
464.h264ref	631	35.1	<u>634</u>	<u>34.9</u>	636	34.8	592	37.4	593	37.3	<u>593</u>	<u>37.3</u>
471.omnetpp	334	18.7	336	18.6	<u>335</u>	<u>18.7</u>	295	21.2	296	21.1	<u>296</u>	<u>21.1</u>
473.astar	434	16.2	<u>433</u>	<u>16.2</u>	433	16.2	373	18.8	<u>377</u>	<u>18.6</u>	377	18.6
483.xalancbmk	<u>241</u>	<u>28.7</u>	241	28.7	240	28.7	<u>241</u>	<u>28.7</u>	241	28.7	240	28.7

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

General Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of processors
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.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.xml>



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