



SPEC[®] CINT2006 Result

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IBM Corporation

SPECint[®]_rate2006 = 53.3

IBM System x3200 M3 (Intel Xeon L3406)

SPECint_rate_base2006 = 49.7

CPU2006 license: 11

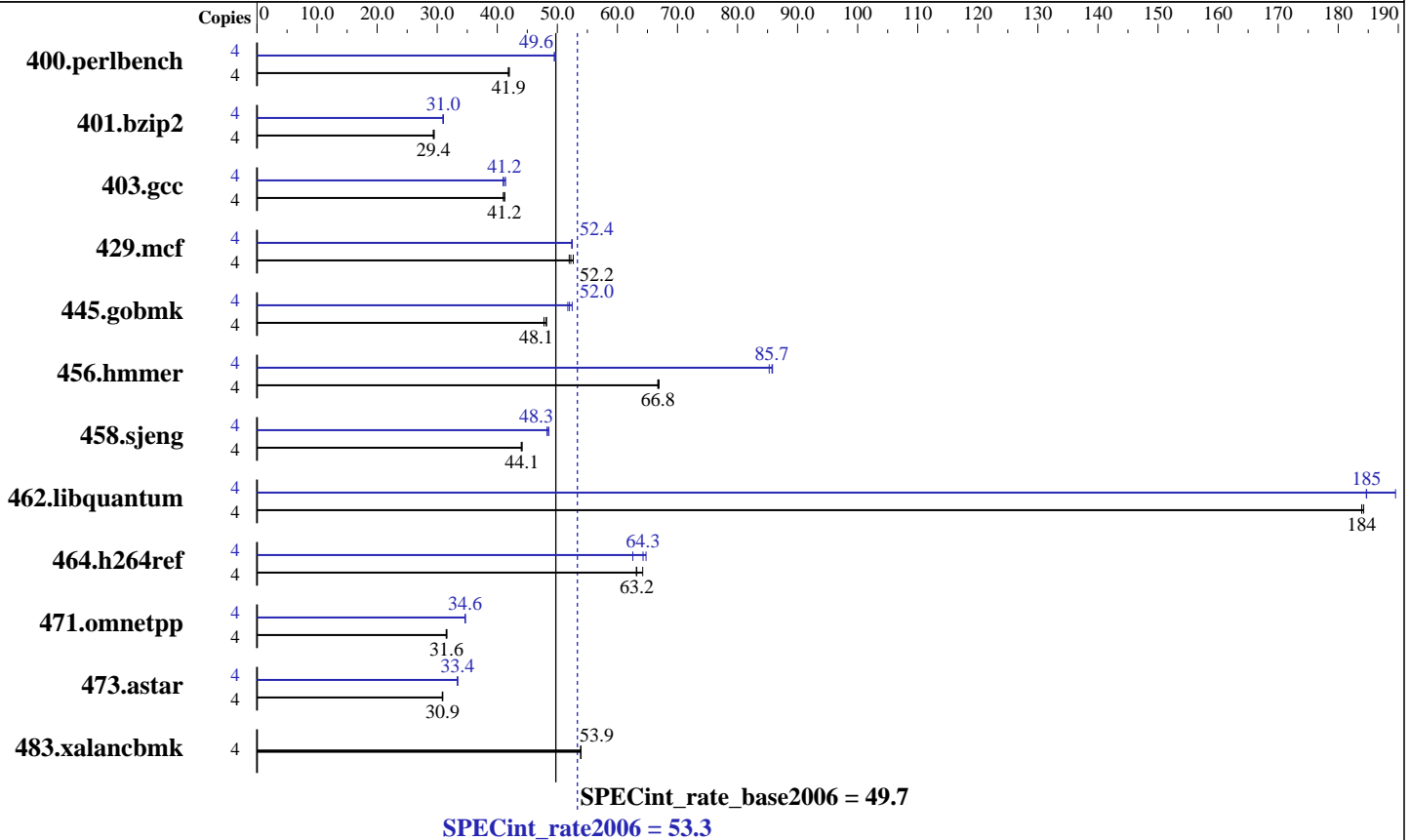
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2010

Hardware Availability: Nov-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon L3406
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (4 x 4 GB 2Rx8 PC3-10600E-9, ECC, running at 1066 MHz)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: SuSe Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: 1_cproc_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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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	930	42.0	934	41.8	<u>933</u>	<u>41.9</u>	4	786	49.7	<u>788</u>	<u>49.6</u>	790	49.5
401.bzip2	4	<u>1313</u>	<u>29.4</u>	1308	29.5	1315	29.4	4	<u>1245</u>	<u>31.0</u>	1244	31.0	1246	31.0
403.gcc	4	785	41.0	781	41.2	<u>781</u>	<u>41.2</u>	4	<u>782</u>	<u>41.2</u>	778	41.4	786	41.0
429.mcf	4	693	52.7	<u>698</u>	<u>52.2</u>	702	52.0	4	695	52.5	<u>696</u>	<u>52.4</u>	696	52.4
445.gobmk	4	870	48.2	<u>872</u>	<u>48.1</u>	878	47.8	4	800	52.5	<u>807</u>	<u>52.0</u>	811	51.7
456.hammer	4	<u>559</u>	<u>66.8</u>	558	66.9	559	66.7	4	<u>435</u>	<u>85.7</u>	435	85.8	438	85.3
458.sjeng	4	1097	44.1	1100	44.0	<u>1097</u>	<u>44.1</u>	4	1002	48.3	<u>1001</u>	<u>48.3</u>	996	48.6
462.libquantum	4	451	184	<u>451</u>	<u>184</u>	450	184	4	<u>449</u>	<u>185</u>	437	190	449	185
464.h264ref	4	1402	63.1	<u>1400</u>	<u>63.2</u>	1379	64.2	4	1415	62.6	<u>1377</u>	<u>64.3</u>	1367	64.8
471.omnetpp	4	791	31.6	<u>792</u>	<u>31.6</u>	794	31.5	4	721	34.7	722	34.6	<u>722</u>	<u>34.6</u>
473.astar	4	910	30.8	908	30.9	<u>908</u>	<u>30.9</u>	4	<u>841</u>	<u>33.4</u>	841	33.4	841	33.4
483.xalancbmk	4	512	53.9	<u>512</u>	<u>53.9</u>	512	53.9	4	512	53.9	<u>512</u>	<u>53.9</u>	512	53.9

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.
numactl was used to bind copies to the cores

Platform Notes

BIOS Settings:
Turbo Mode Enable
CPU C State Enable

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32



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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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libicl1.1-32bit -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

456.hmmcr: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

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

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmcr: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
 -opt-prefetch

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

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
 -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

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

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Peak Optimization Flags (Continued)

473.astar (continued):

-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

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-ic11.1-linux64-revE.20100929.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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