



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 88.3

IBM System x3650 (Intel Xeon X5260)

SPECint_rate_base2006 = 82.8

CPU2006 license: 11

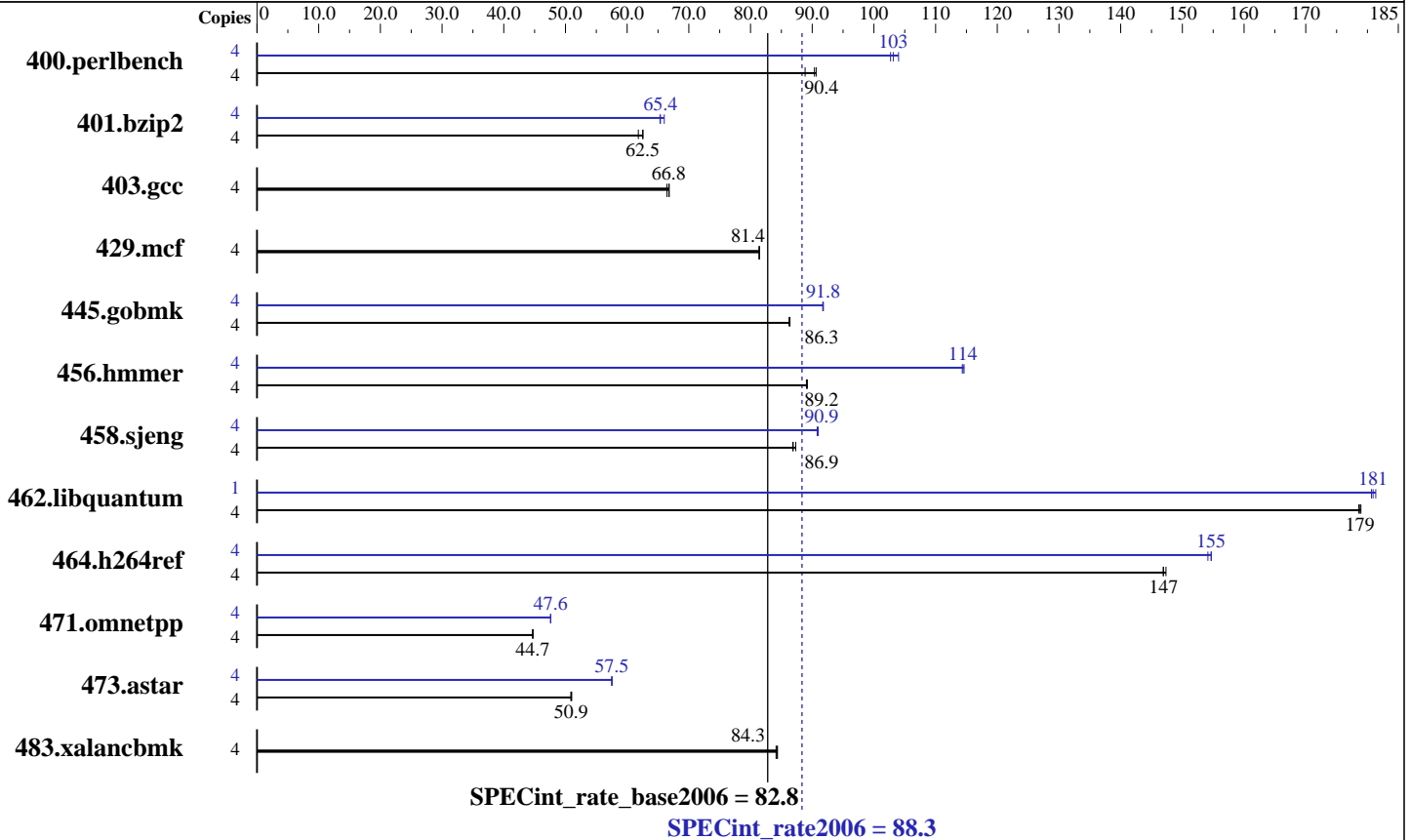
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2008

Hardware Availability: Nov-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 (8 x 2 GB DDR2-5300F ECC)
 Disk Subsystem: 1 x 36 GB SAS, 15000 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 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	<u>432</u>	<u>90.4</u>	431	90.6	440	88.8	4	<u>379</u>	<u>103</u>	381	103	376	104
401.bzip2	4	<u>618</u>	<u>62.5</u>	617	62.6	624	61.8	4	585	66.0	591	65.3	<u>590</u>	<u>65.4</u>
403.gcc	4	482	66.8	<u>482</u>	<u>66.8</u>	485	66.5	4	482	66.8	<u>482</u>	<u>66.8</u>	485	66.5
429.mcf	4	<u>448</u>	<u>81.4</u>	448	81.5	448	81.4	4	<u>448</u>	<u>81.4</u>	448	81.5	448	81.4
445.gobmk	4	486	86.3	<u>486</u>	<u>86.3</u>	486	86.4	4	<u>457</u>	<u>91.8</u>	458	91.7	457	91.8
456.hammer	4	<u>419</u>	<u>89.2</u>	419	89.1	418	89.2	4	326	114	326	115	<u>326</u>	<u>114</u>
458.sjeng	4	557	86.9	<u>557</u>	<u>86.9</u>	554	87.3	4	533	90.8	<u>533</u>	<u>90.9</u>	532	91.0
462.libquantum	4	464	179	463	179	<u>464</u>	<u>179</u>	1	<u>115</u>	<u>181</u>	115	181	114	181
464.h264ref	4	603	147	<u>602</u>	<u>147</u>	601	147	4	574	154	<u>572</u>	<u>155</u>	572	155
471.omnetpp	4	<u>559</u>	<u>44.7</u>	559	44.7	560	44.7	4	525	47.6	<u>525</u>	<u>47.6</u>	525	47.6
473.astar	4	<u>551</u>	<u>50.9</u>	552	50.9	550	51.0	4	488	57.6	488	57.5	<u>488</u>	<u>57.5</u>
483.xalancbmk	4	328	84.1	327	84.4	<u>327</u>	<u>84.3</u>	4	328	84.1	327	84.4	<u>327</u>	<u>84.3</u>

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.
taskset was used to bind processes to cores except for 462.libquantum peak

General Notes

OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
Hardware Prefetch Enabled, Adjacent Sector Prefetch Disabled
'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

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Base Portability Flags (Continued)

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
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

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: basepeak = yes

429.mcf: basepeak = yes

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 -lsmarheap

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 -lsmarheap

483.xalancbmk: basepeak = yes



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Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.11.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.03.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.11.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.03.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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