



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 35.2

IBM System x iDataPlex dx360 M2 (Intel Xeon X5570)

SPECint_base2006 = 31.6

CPU2006 license: 11

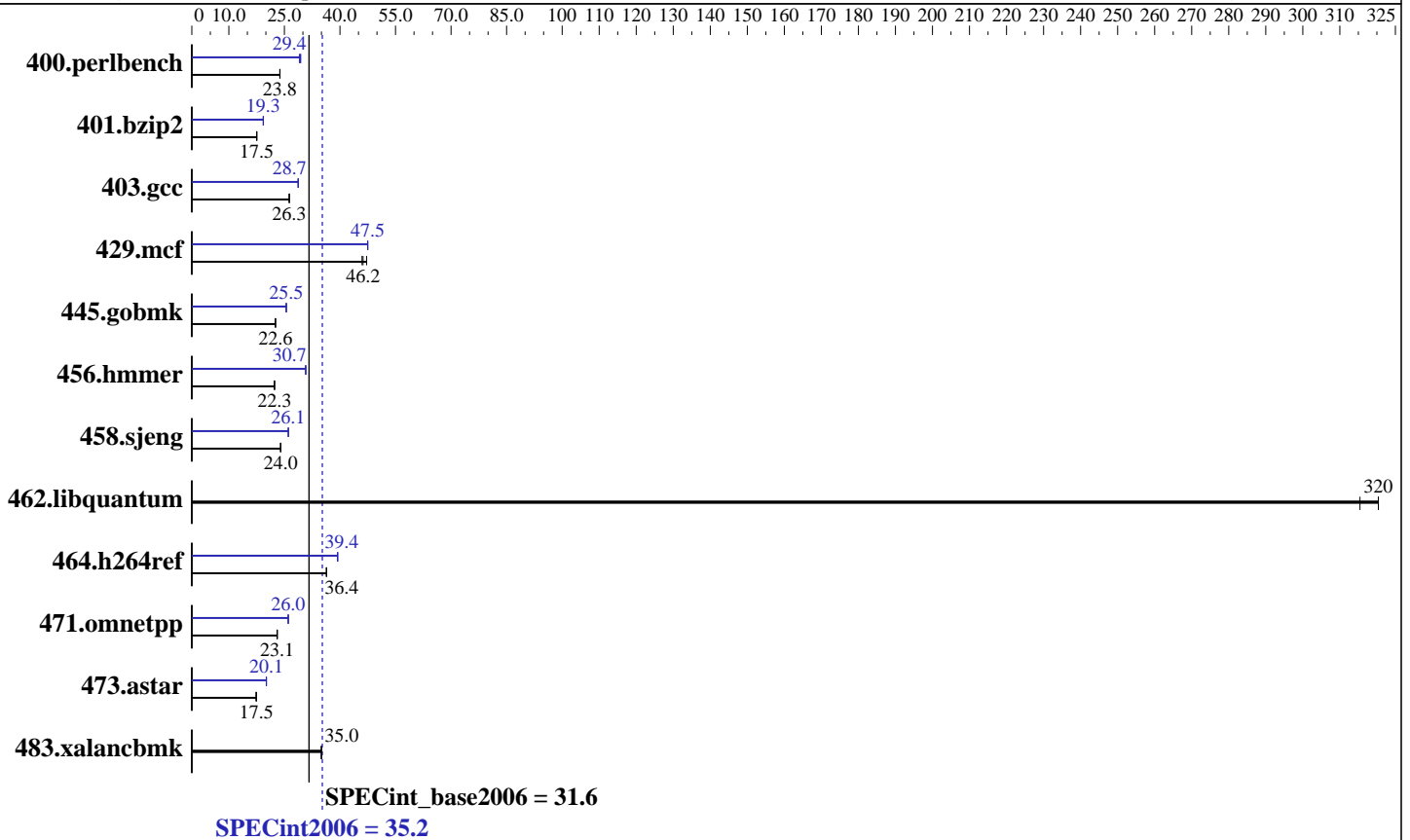
Test date: Mar-2009

Test sponsor: IBM Corporation

Hardware Availability: Apr-2009

Tested by: IBM Corporation

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon X5570
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 12 GB (6 x 2 GB PC3-10600R)
 Disk Subsystem: 1 x 250 GB SATA, 7200R PM
 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 Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
 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>411</u>	<u>23.8</u>	410	23.8	411	23.8	<u>333</u>	<u>29.4</u>	336	29.0	333	29.4
401.bzip2	550	17.5	551	17.5	<u>550</u>	<u>17.5</u>	<u>500</u>	<u>19.3</u>	501	19.3	499	19.3
403.gcc	306	26.3	<u>306</u>	<u>26.3</u>	306	26.3	<u>280</u>	<u>28.7</u>	281	28.7	280	28.7
429.mcf	193	47.2	<u>197</u>	<u>46.2</u>	198	46.0	192	47.5	<u>192</u>	<u>47.5</u>	192	47.5
445.gobmk	<u>465</u>	<u>22.6</u>	465	22.6	464	22.6	412	25.5	411	25.5	<u>411</u>	<u>25.5</u>
456.hmmer	418	22.3	<u>418</u>	<u>22.3</u>	418	22.3	303	30.8	<u>303</u>	<u>30.7</u>	304	30.7
458.sjeng	505	24.0	504	24.0	<u>505</u>	<u>24.0</u>	<u>464</u>	<u>26.1</u>	464	26.1	464	26.1
462.libquantum	<u>64.7</u>	<u>320</u>	64.7	320	65.7	315	<u>64.7</u>	<u>320</u>	64.7	320	65.7	315
464.h264ref	609	36.3	608	36.4	<u>609</u>	<u>36.4</u>	<u>562</u>	<u>39.4</u>	561	39.4	563	39.3
471.omnetpp	<u>271</u>	<u>23.1</u>	271	23.1	272	23.0	240	26.0	240	26.1	<u>240</u>	<u>26.0</u>
473.astar	402	17.5	<u>402</u>	<u>17.5</u>	406	17.3	<u>349</u>	<u>20.1</u>	348	20.2	349	20.1
483.xalancbmk	197	35.0	197	35.0	<u>197</u>	<u>35.0</u>	197	35.0	197	35.0	<u>197</u>	<u>35.0</u>

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

General Notes

Processor CPU C-States Enabled
Memory set to Max Speed
Operation Mode set to "Performance Mode"
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

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



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Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.2 -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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LINUX



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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 -opt-prefetch

401.bzp2: -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) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc
 -opt-malloc-options=3

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.hmmer: -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: basepeak = yes

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/spec/cpu2006.1.1/lib -lsmarheap

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 -auto-ilp32
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap64

483.xalancbmk: basepeak = yes



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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.20090710.08.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.20090710.08.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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