



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 107

IBM System x iDataPlex dx320 (Intel Xeon L5420)

SPECint_rate_base2006 = 92.4

CPU2006 license: 11

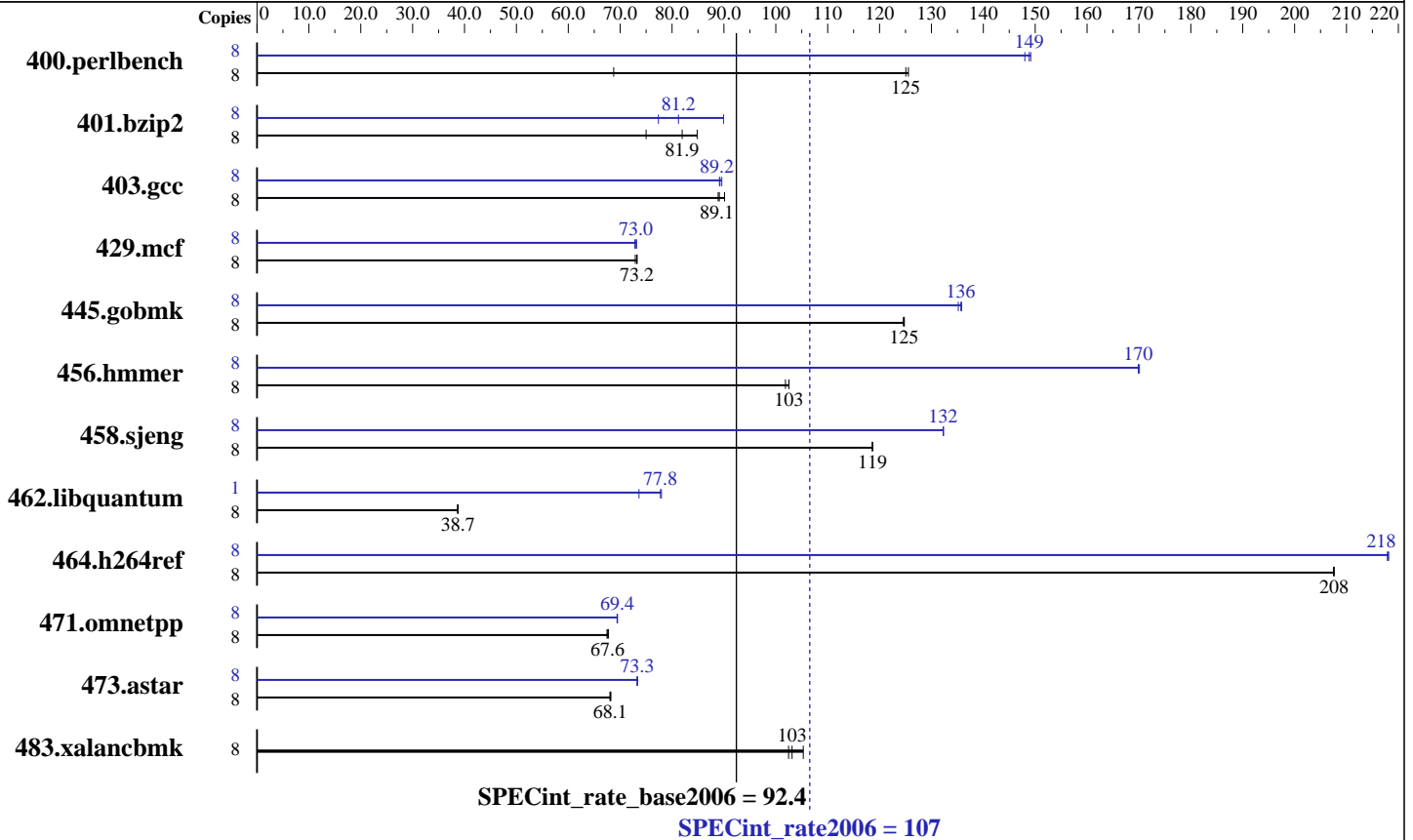
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Sep-2008

Hardware Availability: Nov-2008

Software Availability: Jul-2008



Hardware

CPU Name: Intel Xeon L5420
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 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: 16 GB(4 x 4 GB DDR2-5300P ECC)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux AS release 4 (x86_64)(Nahant Update 7), Kernel 2.6.9-78.ELsmp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015
 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	8	1137	68.8	622	126	625	125	8	524	149	528	148	525	149
401.bzip2	8	942	81.9	1029	75.0	910	84.8	8	998	77.4	858	89.9	950	81.2
403.gcc	8	723	89.1	715	90.1	724	88.9	8	719	89.6	722	89.2	722	89.1
429.mcf	8	1001	72.9	996	73.2	996	73.2	8	997	73.2	999	73.0	1002	72.8
445.gobmk	8	673	125	674	125	673	125	8	619	136	621	135	618	136
456.hmmer	8	733	102	728	103	728	103	8	439	170	439	170	439	170
458.sjeng	8	816	119	816	119	816	119	8	732	132	732	132	732	132
462.libquantum	8	4290	38.6	4280	38.7	4275	38.8	1	266	77.8	281	73.6	266	78.0
464.h264ref	8	853	208	853	207	853	208	8	813	218	812	218	812	218
471.omnetpp	8	741	67.5	740	67.6	738	67.7	8	720	69.4	720	69.5	720	69.4
473.astar	8	825	68.1	826	68.0	823	68.2	8	766	73.3	766	73.4	766	73.3
483.xalancbmk	8	535	103	539	102	524	105	8	535	103	539	102	524	105

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

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode
Hardware Prefetch Disabled and Adjacent Sector Prefetch Disabled
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to null
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc



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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:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -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/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/include

456.hmmer: /opt/intel/cce/10.1.015/bin/icc
-L/opt/intel/cce/10.1.015/lib
-I/opt/intel/cce/10.1.015/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) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-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) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

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-Linux64-Platform.20090713.09.html>

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.html>

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

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.09.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.xml>

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For other inquiries, please contact webmaster@spec.org.

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