



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 693

IBM System x3850 X5 (Intel Xeon X7550)

SPECint_rate_base2006 = 648

CPU2006 license: 11

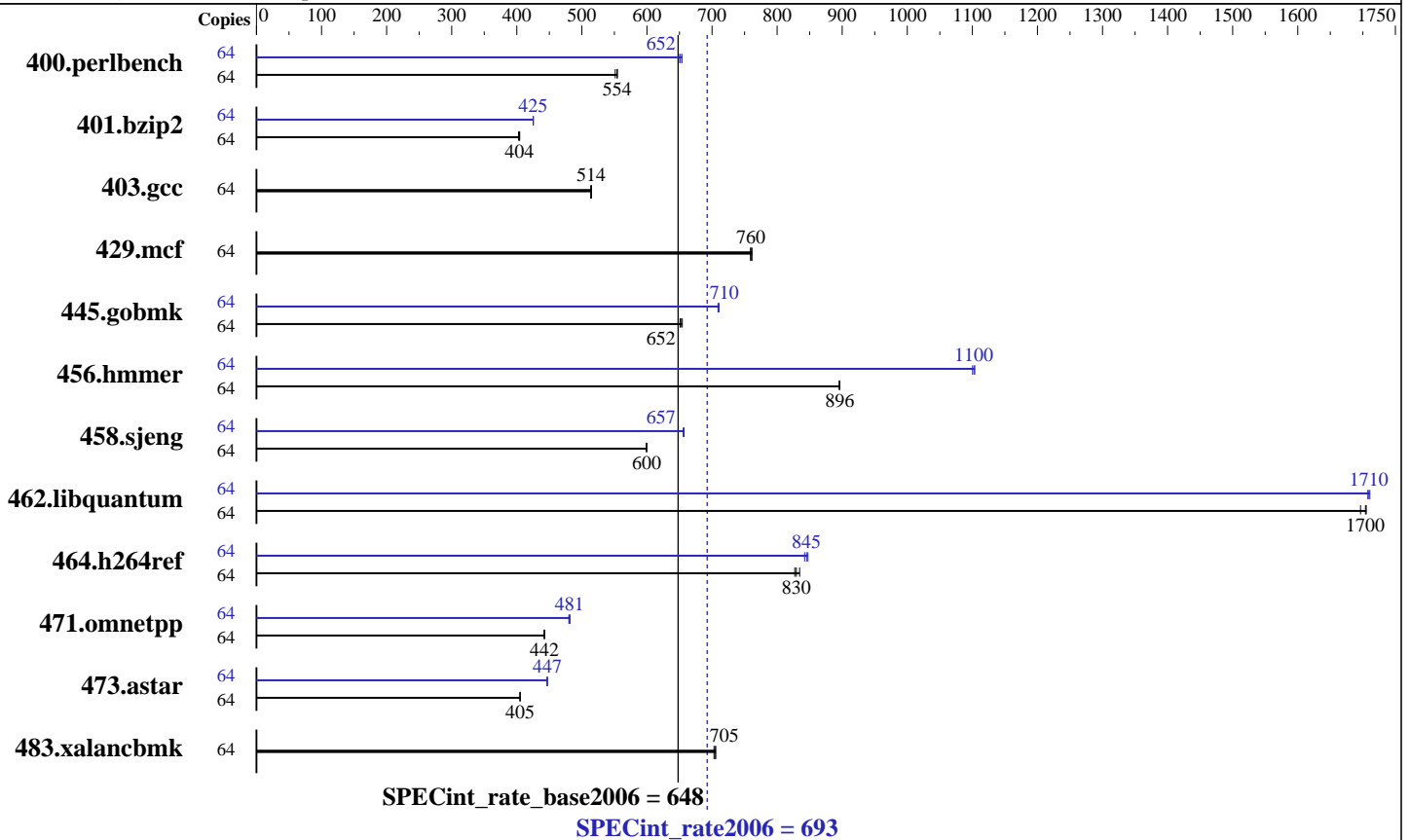
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X7550
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 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: 18 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (64 x 4 GB DDR3-1066 QR RDIMM)
 Disk Subsystem: 3 x 50 GB SATA, SSD
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
 Build 20091130 Package ID: l_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
 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	64	1128	554	<u>1128</u>	<u>554</u>	1134	551	64	956	654	961	650	<u>960</u>	<u>652</u>
401.bzip2	64	1534	403	<u>1528</u>	<u>404</u>	1527	405	64	1453	425	<u>1452</u>	<u>425</u>	1452	425
403.gcc	64	<u>1002</u>	<u>514</u>	1001	515	1003	514	64	<u>1002</u>	<u>514</u>	1001	515	1003	514
429.mcf	64	<u>768</u>	<u>760</u>	769	759	766	761	64	<u>768</u>	<u>760</u>	769	759	766	761
445.gobmk	64	1031	651	1026	654	<u>1030</u>	<u>652</u>	64	945	711	947	709	<u>945</u>	<u>710</u>
456.hammer	64	666	896	667	895	<u>666</u>	<u>896</u>	64	<u>542</u>	<u>1100</u>	541	1100	543	1100
458.sjeng	64	<u>1292</u>	<u>600</u>	1293	599	1291	600	64	<u>1179</u>	<u>657</u>	1179	657	1181	656
462.libquantum	64	782	1700	778	1710	<u>778</u>	<u>1700</u>	64	777	1710	<u>776</u>	<u>1710</u>	775	1710
464.h264ref	64	1712	827	<u>1707</u>	<u>830</u>	1697	835	64	1671	847	<u>1676</u>	<u>845</u>	1682	842
471.omnetpp	64	905	442	<u>904</u>	<u>442</u>	904	443	64	833	480	<u>832</u>	<u>481</u>	830	482
473.astar	64	<u>1109</u>	<u>405</u>	1108	405	1110	405	64	1006	447	<u>1005</u>	<u>447</u>	1005	447
483.xalancbmk	64	628	703	626	706	<u>627</u>	<u>705</u>	64	628	703	626	706	<u>627</u>	<u>705</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.
numactl was used to bind copies to the cores

Platform Notes

Turbo Boost set to Traditional in BIOS
Demand Scrub disabled in BIOS

General Notes

'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.ic11.1/libic11.1-32bit -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: basepeak = yes

429.mcf: basepeak = yes

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.20100330.03.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.20100330.03.xml>

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

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 07:43:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 27 April 2010.