



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 26.5

IBM BladeCenter HS21 XM (Intel Xeon E5450)

SPECint_base2006 = 23.3

CPU2006 license: 11

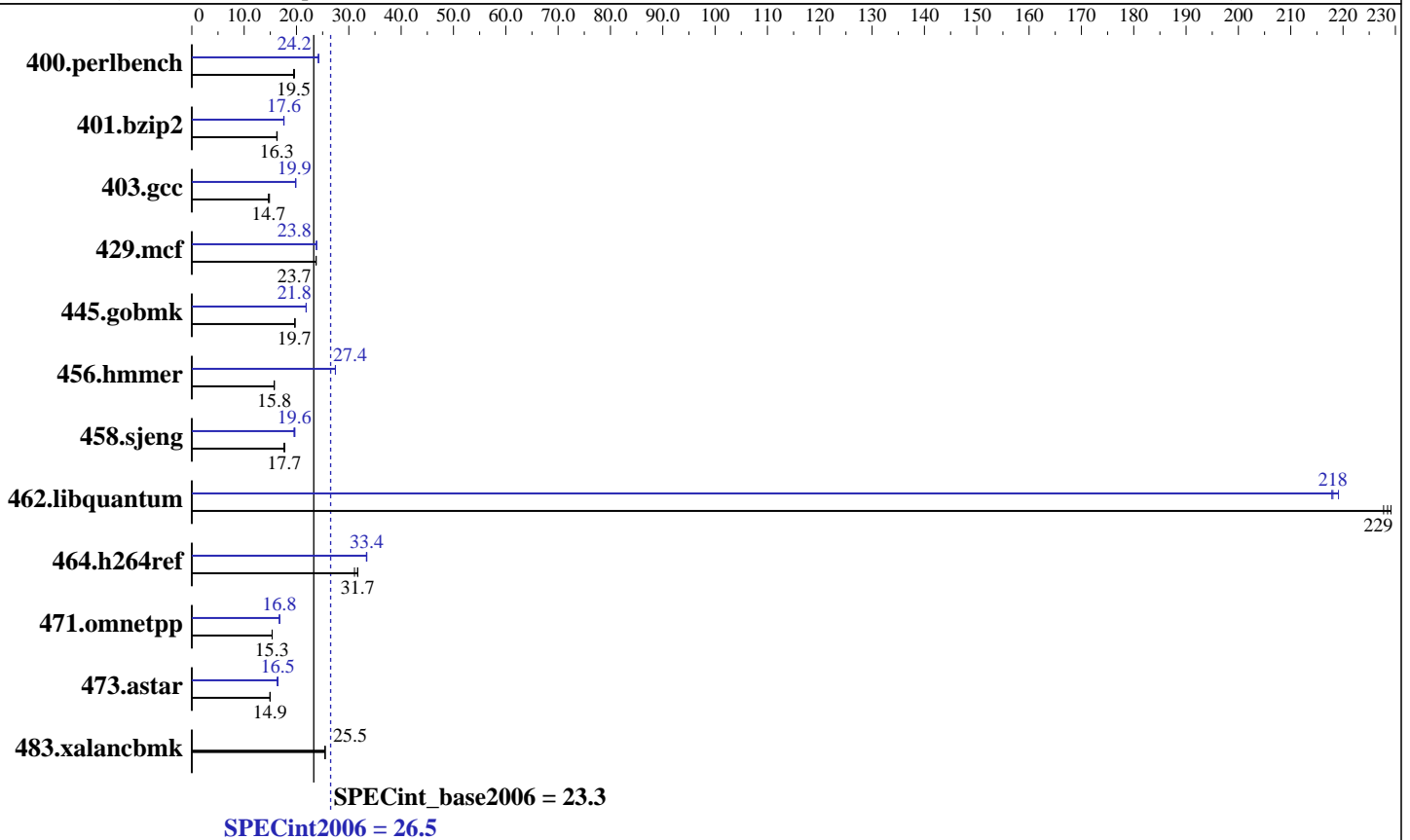
Test date: Nov-2007

Test sponsor: IBM Corporation

Hardware Availability: Jan-2008

Tested by: IBM Corporation

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5450
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 3000
 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 (8 x 2 GB DDR2-5300F ECC)
 Disk Subsystem: 1 x 36 GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: SLES10 (x86_64), 2.6.16.21-0.8-smp
 Compiler: Intel C++ Compiler 10.1 for Linux
 Build 20070913 Package ID: 1_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap 8.1
 Binutils 2.17.50.0.15



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	498	19.6	502	19.5	<u>501</u>	<u>19.5</u>	<u>404</u>	<u>24.2</u>	403	24.2	404	24.2
401.bzip2	<u>593</u>	<u>16.3</u>	591	16.3	594	16.2	<u>548</u>	<u>17.6</u>	550	17.6	548	17.6
403.gcc	<u>548</u>	<u>14.7</u>	542	14.8	549	14.7	406	19.8	<u>405</u>	<u>19.9</u>	405	19.9
429.mcf	<u>384</u>	<u>23.7</u>	384	23.7	384	23.8	383	23.8	<u>383</u>	<u>23.8</u>	383	23.8
445.gobmk	<u>533</u>	<u>19.7</u>	533	19.7	532	19.7	480	21.9	480	21.8	<u>480</u>	<u>21.8</u>
456.hmmmer	593	15.7	<u>592</u>	<u>15.8</u>	592	15.8	<u>340</u>	<u>27.4</u>	340	27.4	340	27.4
458.sjeng	687	17.6	681	17.8	<u>684</u>	<u>17.7</u>	614	19.7	<u>616</u>	<u>19.6</u>	620	19.5
462.libquantum	90.4	229	<u>90.7</u>	<u>229</u>	91.0	228	94.6	219	95.1	218	<u>95.0</u>	<u>218</u>
464.h264ref	<u>698</u>	<u>31.7</u>	698	31.7	712	31.1	<u>662</u>	<u>33.4</u>	663	33.4	662	33.4
471.omnetpp	407	15.4	<u>407</u>	<u>15.3</u>	407	15.3	373	16.7	373	16.8	<u>373</u>	<u>16.8</u>
473.astar	470	14.9	468	15.0	<u>470</u>	<u>14.9</u>	426	16.5	<u>427</u>	<u>16.5</u>	430	16.3
483.xalancbmk	271	25.5	<u>271</u>	<u>25.5</u>	271	25.4	271	25.5	<u>271</u>	<u>25.5</u>	271	25.4

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

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode
Hardware Sector Prefetch Enabled and Adjacent Sector Prefetch Enabled
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to null

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:

-fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/users/rahul/cpu2006.1.0/lib -lsmarheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/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
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

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
-auto-ilp32

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
-auto-ilp32

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/users/rahul/cpu2006.1.0/lib -lsmartheap

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/users/rahul/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.14.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.14.xml>

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

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