



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 27.6

IBM BladeCenter HS21 XM (Intel Xeon X5260)

SPECint_base2006 = 23.0

CPU2006 license: 11

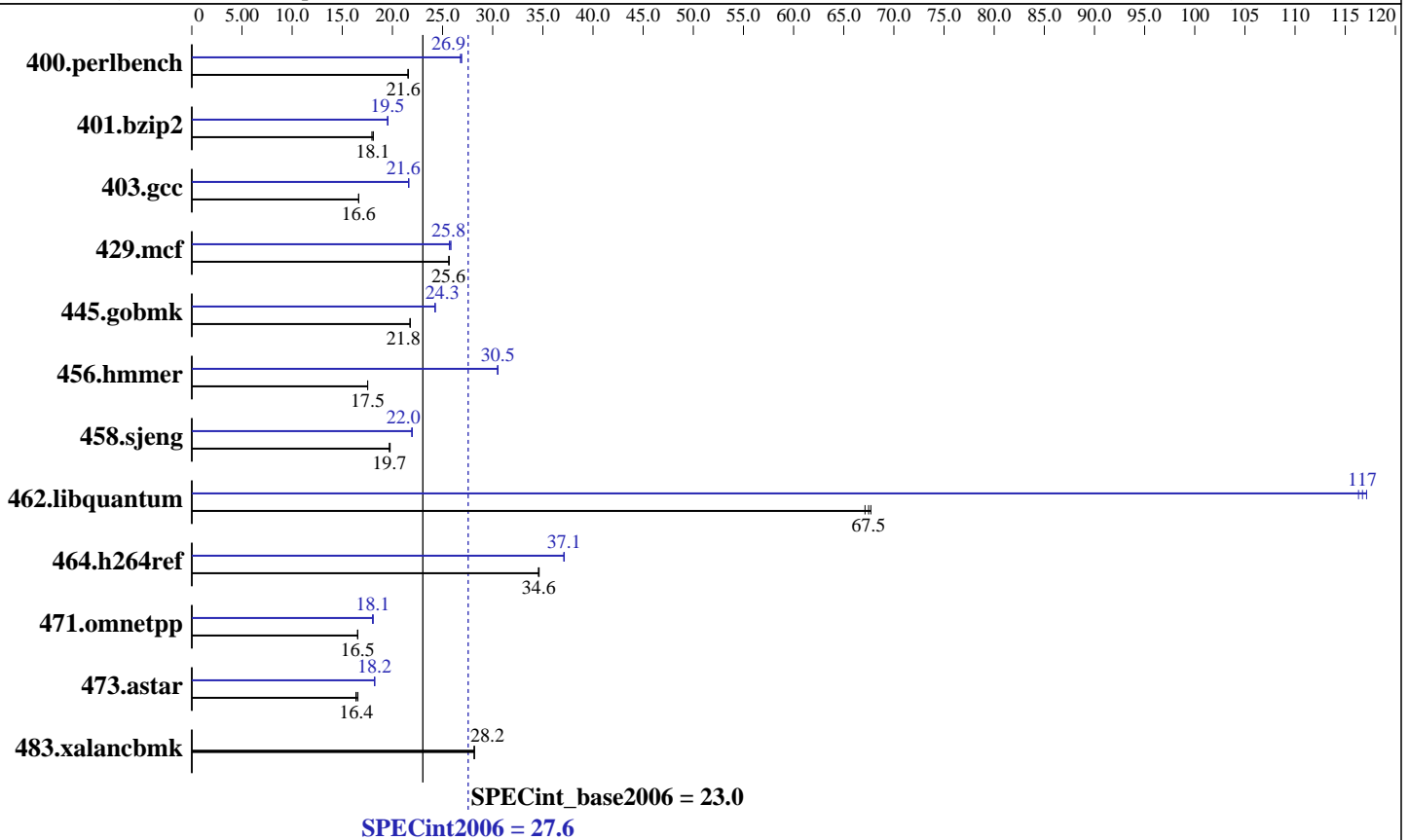
Test date: Jan-2008

Test sponsor: IBM Corporation

Hardware Availability: Feb-2008

Tested by: IBM Corporation

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5260
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 3325
 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, 10000 RPM
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_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	453	21.6	453	21.5	<u>453</u>	<u>21.6</u>	365	26.8	<u>363</u>	<u>26.9</u>	363	26.9
401.bzip2	<u>534</u>	<u>18.1</u>	538	18.0	533	18.1	494	19.5	494	19.5	<u>494</u>	<u>19.5</u>
403.gcc	484	16.6	<u>484</u>	<u>16.6</u>	484	16.6	372	21.6	372	21.6	<u>372</u>	<u>21.6</u>
429.mcf	356	25.6	<u>356</u>	<u>25.6</u>	355	25.7	355	25.7	<u>353</u>	<u>25.8</u>	353	25.8
445.gobmk	<u>482</u>	<u>21.8</u>	482	21.8	482	21.8	433	24.2	432	24.3	<u>432</u>	<u>24.3</u>
456.hmmmer	532	17.5	<u>532</u>	<u>17.5</u>	532	17.5	306	30.5	<u>306</u>	<u>30.5</u>	306	30.5
458.sjeng	<u>614</u>	<u>19.7</u>	614	19.7	612	19.8	<u>551</u>	<u>22.0</u>	550	22.0	552	21.9
462.libquantum	<u>307</u>	<u>67.5</u>	306	67.7	309	67.1	178	116	<u>178</u>	<u>117</u>	177	117
464.h264ref	639	34.6	640	34.6	<u>640</u>	<u>34.6</u>	<u>596</u>	<u>37.1</u>	597	37.1	596	37.1
471.omnetpp	378	16.5	378	16.5	<u>378</u>	<u>16.5</u>	347	18.0	346	18.1	<u>346</u>	<u>18.1</u>
473.astar	424	16.6	<u>428</u>	<u>16.4</u>	429	16.4	386	18.2	<u>385</u>	<u>18.2</u>	385	18.2
483.xalancbmk	245	28.2	245	28.2	<u>245</u>	<u>28.2</u>	245	28.2	245	28.2	<u>245</u>	<u>28.2</u>

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 -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/10.1.008/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.hmmr: -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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