



SPEC[®] CINT2006 Result

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IBM Corporation

SPECint[®]2006 = 26.3

IBM System x3250 M2 (Intel Xeon E3120)

SPECint_base2006 = 22.6

CPU2006 license: 11

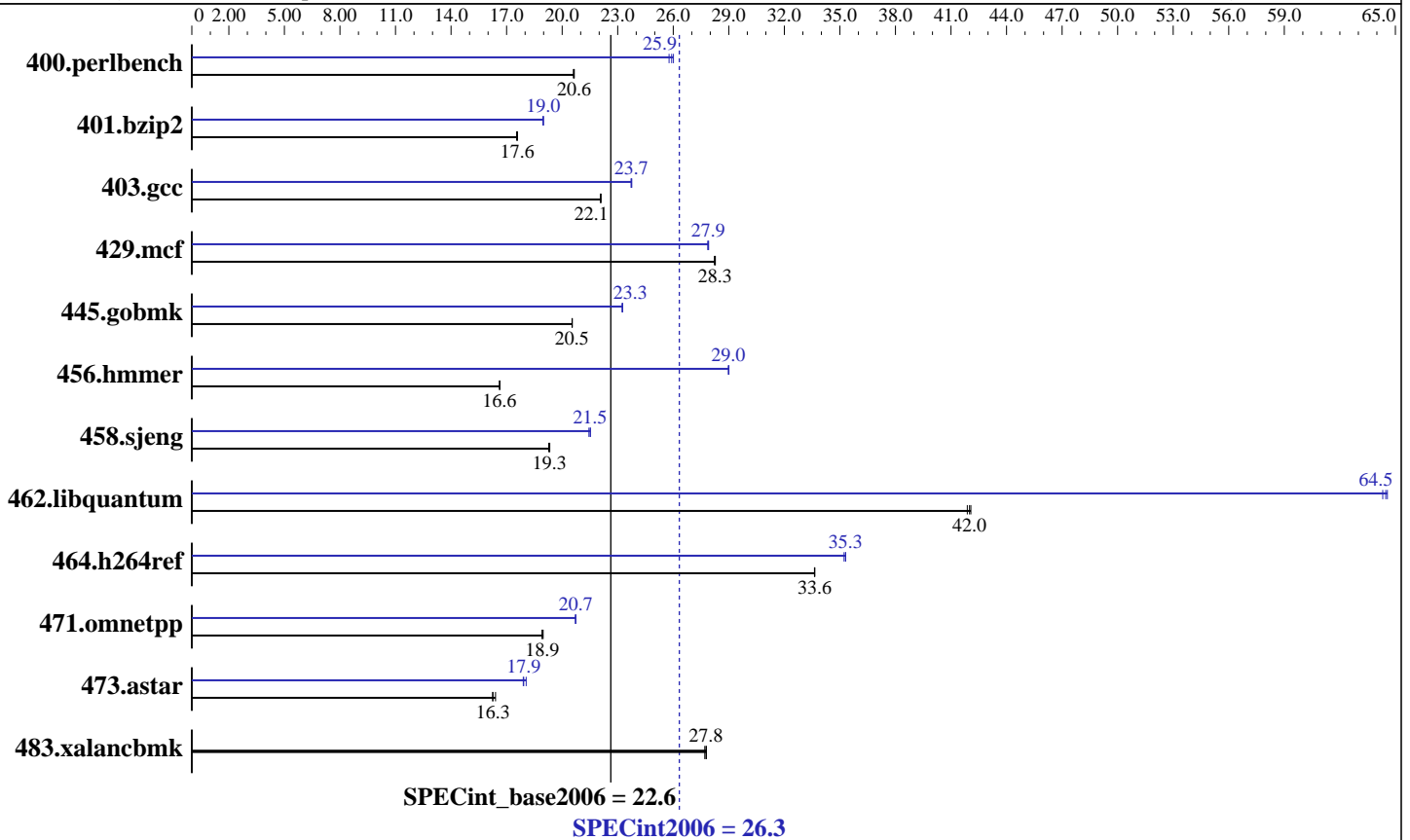
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jun-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E3120
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 3166
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 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: 8 GB (4 x 2 GB DDR2-6400E ECC)
 Disk Subsystem: 1 x 160 GB SATA, 7200RPM
 Other Hardware: None

Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-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: Run level 3 (Full multiuser with network)
 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	474	20.6	473	20.6	<u>473</u>	<u>20.6</u>	379	25.8	376	26.0	<u>377</u>	<u>25.9</u>
401.bzip2	550	17.5	549	17.6	<u>549</u>	<u>17.6</u>	509	19.0	<u>508</u>	<u>19.0</u>	508	19.0
403.gcc	364	22.1	365	22.1	<u>365</u>	<u>22.1</u>	339	23.7	<u>339</u>	<u>23.7</u>	339	23.8
429.mcf	<u>323</u>	<u>28.3</u>	323	28.2	323	28.3	327	27.9	327	27.9	<u>327</u>	<u>27.9</u>
445.gobmk	510	20.6	<u>511</u>	<u>20.5</u>	511	20.5	<u>451</u>	<u>23.3</u>	451	23.2	451	23.3
456.hmmmer	561	16.6	561	16.6	<u>561</u>	<u>16.6</u>	<u>322</u>	<u>29.0</u>	322	29.0	322	29.0
458.sjeng	<u>627</u>	<u>19.3</u>	626	19.3	628	19.3	<u>562</u>	<u>21.5</u>	564	21.4	562	21.5
462.libquantum	<u>493</u>	<u>42.0</u>	492	42.1	495	41.9	322	64.3	321	64.6	<u>321</u>	<u>64.5</u>
464.h264ref	658	33.6	<u>658</u>	<u>33.6</u>	658	33.6	627	35.3	<u>627</u>	<u>35.3</u>	628	35.2
471.omnetpp	329	19.0	330	18.9	<u>330</u>	<u>18.9</u>	301	20.7	<u>301</u>	<u>20.7</u>	302	20.7
473.astar	<u>432</u>	<u>16.3</u>	428	16.4	432	16.2	<u>392</u>	<u>17.9</u>	389	18.1	392	17.9
483.xalancbmk	248	27.8	<u>249</u>	<u>27.8</u>	249	27.7	248	27.8	<u>249</u>	<u>27.8</u>	249	27.7

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.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-ic10.1-int-linux64-revC.20090714.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revC.20090714.xml>

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