



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint®2006 = 33.1

IBM System x3650 M3 (Intel Xeon L5640)

SPECint_base2006 = 30.3

CPU2006 license: 11

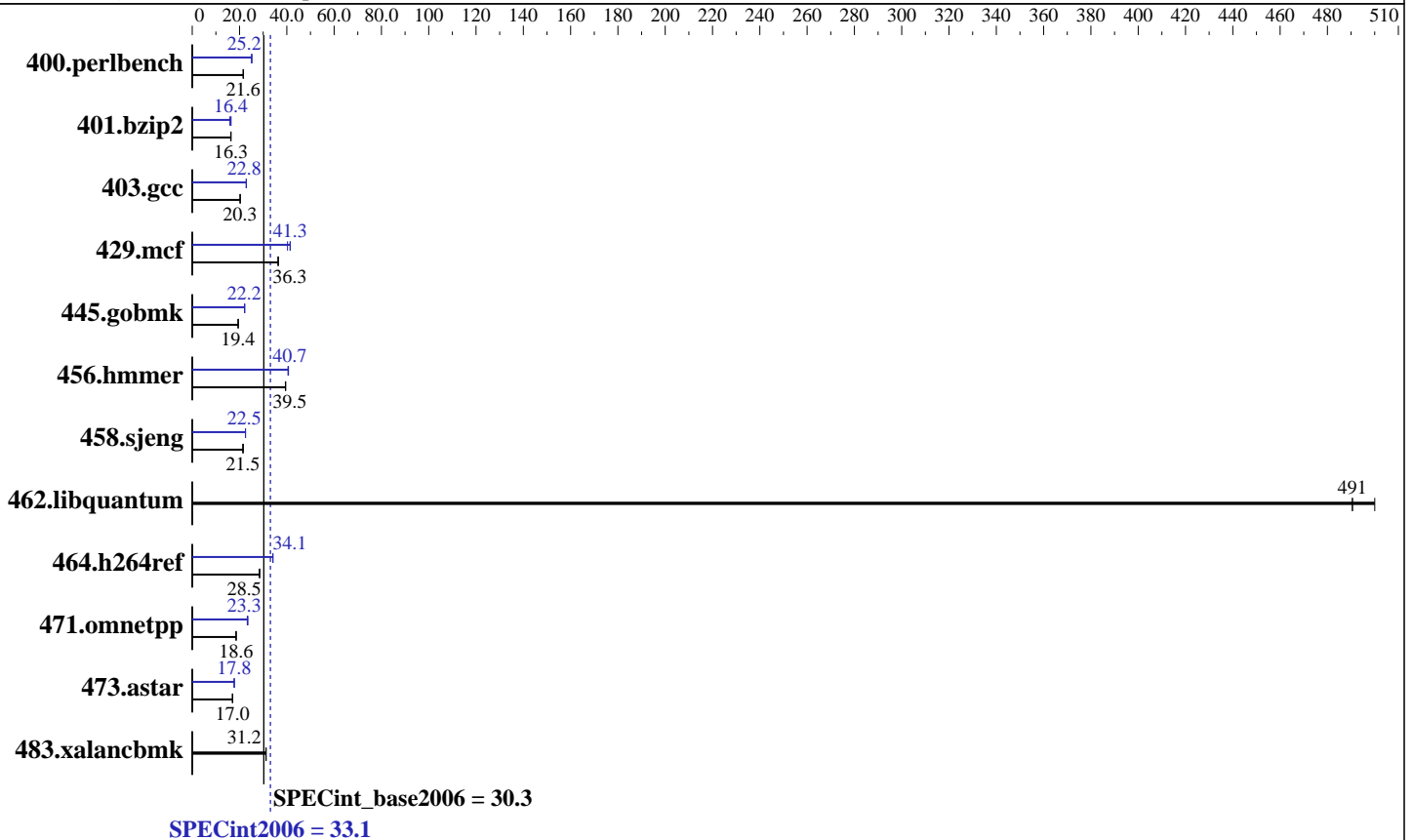
Test date: May-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon L5640
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (12 x 4 GB PC3-10600R-ECC, CL9)
 Disk Subsystem: 1 x 73 GB SAS, 15000RPM
 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: 1_cproc_p_11.1.064
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint2006 = 33.1

IBM System x3650 M3 (Intel Xeon L5640)

SPECint_base2006 = 30.3

CPU2006 license: 11

Test date: May-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	453	21.6	453	21.6	<u>453</u>	<u>21.6</u>	389	25.1	388	25.2	<u>388</u>	<u>25.2</u>
401.bzip2	591	16.3	<u>591</u>	<u>16.3</u>	589	16.4	589	16.4	609	15.8	<u>590</u>	<u>16.4</u>
403.gcc	397	20.3	<u>397</u>	<u>20.3</u>	398	20.2	<u>353</u>	<u>22.8</u>	352	22.9	353	22.8
429.mcf	251	36.4	<u>251</u>	<u>36.3</u>	251	36.3	220	41.5	<u>221</u>	<u>41.3</u>	226	40.3
445.gobmk	541	19.4	540	19.4	<u>540</u>	<u>19.4</u>	473	22.2	474	22.1	<u>474</u>	<u>22.2</u>
456.hammer	<u>236</u>	<u>39.5</u>	236	39.5	237	39.4	229	40.7	<u>229</u>	<u>40.7</u>	231	40.5
458.sjeng	<u>562</u>	<u>21.5</u>	566	21.4	561	21.6	<u>537</u>	<u>22.5</u>	537	22.5	538	22.5
462.libquantum	42.2	491	<u>42.2</u>	<u>491</u>	41.4	500	42.2	491	<u>42.2</u>	<u>491</u>	41.4	500
464.h264ref	777	28.5	<u>777</u>	<u>28.5</u>	778	28.5	648	34.1	<u>649</u>	<u>34.1</u>	650	34.1
471.omnetpp	337	18.5	<u>337</u>	<u>18.6</u>	337	18.6	<u>268</u>	<u>23.3</u>	265	23.6	268	23.3
473.astar	<u>412</u>	<u>17.0</u>	414	17.0	410	17.1	396	17.7	395	17.8	<u>395</u>	<u>17.8</u>
483.xalancbmk	<u>221</u>	<u>31.2</u>	221	31.3	222	31.1	<u>221</u>	<u>31.2</u>	221	31.3	222	31.1

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

Platform Notes

Turbo Mode Enable
Turbo Boost set to Traditional
CPU C State Enable
Data Reuse Disable

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint2006 = 33.1

IBM System x3650 M3 (Intel Xeon L5640)

SPECint_base2006 = 30.3

CPU2006 license: 11

Test date: May-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -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/libic11.1-64bit -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint2006 = 33.1

IBM System x3650 M3 (Intel Xeon L5640)

SPECint_base2006 = 30.3

CPU2006 license: 11

Test date: May-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

Peak Compiler Invocation (Continued)

471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
 401.bzip2: -DSPEC_CPU_LP64
 403.gcc: -DSPEC_CPU_LP64
 456.hmmer: -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_LP64 -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 -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)
 -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
 -opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
 -ipo -no-prec-div -ansi-alias

456.hmmer: -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

462.libquantum: basepeak = yes

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation SPECint2006 = 33.1

IBM System x3650 M3 (Intel Xeon L5640) SPECint_base2006 = 30.3

CPU2006 license: 11	Test date: May-2010
Test sponsor: IBM Corporation	Hardware Availability: Jun-2010
Tested by: IBM Corporation	Software Availability: Jan-2010

Peak Optimization Flags (Continued)

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
            -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.20100601.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.20100601.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 07:52:01 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 June 2010.