



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

**SPECfp®2006 = 34.9**

### IBM BladeCenter HX5 (Intel Xeon L7555)

**SPECfp\_base2006 = 32.0**

CPU2006 license: 11

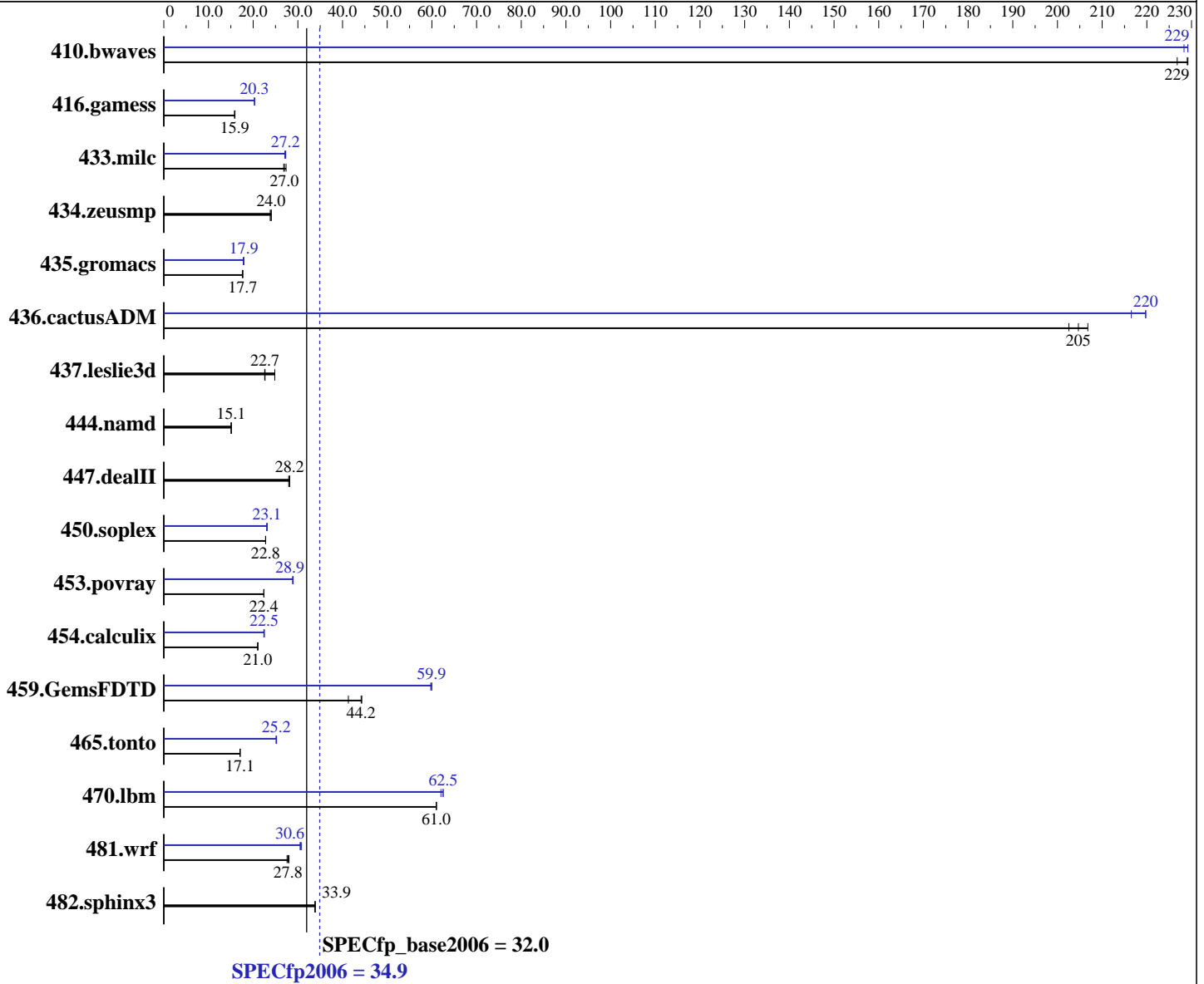
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Jun-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon L7555  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

Continued on next page

### Software

Operating System: SuSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

SPECfp2006 = 34.9

## IBM BladeCenter HX5 (Intel Xeon L7555)

SPECfp\_base2006 = 32.0

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Jun-2010

Software Availability: Jan-2010

L3 Cache: 24 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB PC3-8500R, running at 978 MHz)  
Disk Subsystem: 2 x 50 GB SATA, SSD  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: Binutils 2.18.50.0.7.20080502

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	59.9	227	59.3	229	<b><u>59.3</u></b>	<b><u>229</u></b>	59.3	229	59.5	228	<b><u>59.3</u></b>	<b><u>229</u></b>
416.gamess	1237	15.8	1229	15.9	<b><u>1234</u></b>	<b><u>15.9</u></b>	<b><u>964</u></b>	<b><u>20.3</u></b>	965	20.3	964	20.3
433.milc	342	26.8	<b><u>340</u></b>	<b><u>27.0</u></b>	335	27.4	<b><u>337</u></b>	<b><u>27.2</u></b>	336	27.3	339	27.1
434.zeusmp	382	23.8	<b><u>379</u></b>	<b><u>24.0</u></b>	378	24.0	382	23.8	<b><u>379</u></b>	<b><u>24.0</u></b>	378	24.0
435.gromacs	406	17.6	404	17.7	<b><u>404</u></b>	<b><u>17.7</u></b>	<b><u>399</u></b>	<b><u>17.9</u></b>	398	17.9	402	17.8
436.cactusADM	57.8	207	<b><u>58.4</u></b>	<b><u>205</u></b>	59.0	203	54.4	220	<b><u>54.4</u></b>	<b><u>220</u></b>	55.2	217
437.leslie3d	416	22.6	378	24.8	<b><u>415</u></b>	<b><u>22.7</u></b>	416	22.6	378	24.8	<b><u>415</u></b>	<b><u>22.7</u></b>
444.namd	532	15.1	531	15.1	<b><u>532</u></b>	<b><u>15.1</u></b>	532	15.1	531	15.1	<b><u>532</u></b>	<b><u>15.1</u></b>
447.dealII	<b><u>406</u></b>	<b><u>28.2</u></b>	406	28.2	409	28.0	<b><u>406</u></b>	<b><u>28.2</u></b>	406	28.2	409	28.0
450.soplex	366	22.8	366	22.8	<b><u>366</u></b>	<b><u>22.8</u></b>	362	23.0	<b><u>361</u></b>	<b><u>23.1</u></b>	360	23.2
453.povray	238	22.4	<b><u>238</u></b>	<b><u>22.4</u></b>	237	22.4	<b><u>184</u></b>	<b><u>28.9</u></b>	185	28.8	184	29.0
454.calculix	<b><u>392</u></b>	<b><u>21.0</u></b>	392	21.0	392	21.0	<b><u>367</u></b>	<b><u>22.5</u></b>	368	22.4	366	22.5
459.GemsFDTD	<b><u>240</u></b>	<b><u>44.2</u></b>	239	44.3	257	41.3	<b><u>177</u></b>	<b><u>59.9</u></b>	177	60.0	178	59.7
465.tonto	575	17.1	577	17.0	<b><u>576</u></b>	<b><u>17.1</u></b>	<b><u>391</u></b>	<b><u>25.2</u></b>	390	25.2	392	25.1
470.lbm	225	61.0	<b><u>225</u></b>	<b><u>61.0</u></b>	225	61.0	220	62.5	<b><u>220</u></b>	<b><u>62.5</u></b>	222	62.0
481.wrf	405	27.6	399	28.0	<b><u>402</u></b>	<b><u>27.8</u></b>	362	30.8	366	30.5	<b><u>365</u></b>	<b><u>30.6</u></b>
482.sphinx3	575	33.9	<b><u>576</u></b>	<b><u>33.9</u></b>	576	33.8	575	33.9	<b><u>576</u></b>	<b><u>33.9</u></b>	576	33.8

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

## 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  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 34.9

IBM BladeCenter HX5 (Intel Xeon L7555)

SPECfp\_base2006 = 32.0

CPU2006 license: 11

Test date: Apr-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Base Portability Flags

410.bwaves: -DSPEC\_CPU\_LP64  
416.gamess: -DSPEC\_CPU\_LP64  
433.milc: -DSPEC\_CPU\_LP64  
434.zeusmp: -DSPEC\_CPU\_LP64  
435.gromacs: -DSPEC\_CPU\_LP64 -nofor\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
437.lelie3d: -DSPEC\_CPU\_LP64  
444.namd: -DSPEC\_CPU\_LP64  
447.dealII: -DSPEC\_CPU\_LP64  
450.soplex: -DSPEC\_CPU\_LP64  
453.povray: -DSPEC\_CPU\_LP64  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## 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 -static -parallel -opt-prefetch

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 34.9

IBM BladeCenter HX5 (Intel Xeon L7555)

SPECfp\_base2006 = 32.0

CPU2006 license: 11

Test date: Apr-2010

Test sponsor: IBM Corporation

Hardware Availability: Jun-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: -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

470.lbm: -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)  
-parallel -ansi-alias -auto-ilp32

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: basepeak = yes

450.soplex: -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-malloc-options=3 -auto-ilp32

453.povray: -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 -ansi-alias

Fortran benchmarks:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 34.9

IBM BladeCenter HX5 (Intel Xeon L7555)

SPECfp\_base2006 = 32.0

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Jun-2010

Software Availability: Jan-2010

## Peak Optimization Flags (Continued)

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel

416.gamess: -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 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -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 -Ob0 -opt-prefetch -parallel

465.tonto: -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)  
-inline-alloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -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 -auto-ilp32

436.cactusADM: -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 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix

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>



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 34.9

IBM BladeCenter HX5 (Intel Xeon L7555)

SPECfp\_base2006 = 32.0

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Jun-2010

Software Availability: Jan-2010

SPEC and SPECfp 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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 07:16:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 27 April 2010.