



# SPEC® CFP2006 Result

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## IBM Corporation

### SPECfp®\_rate2006 = 35.5

### IBM System x3250 M3 (Intel Celeron G1101)

### SPECfp\_rate\_base2006 = 34.2

CPU2006 license: 11

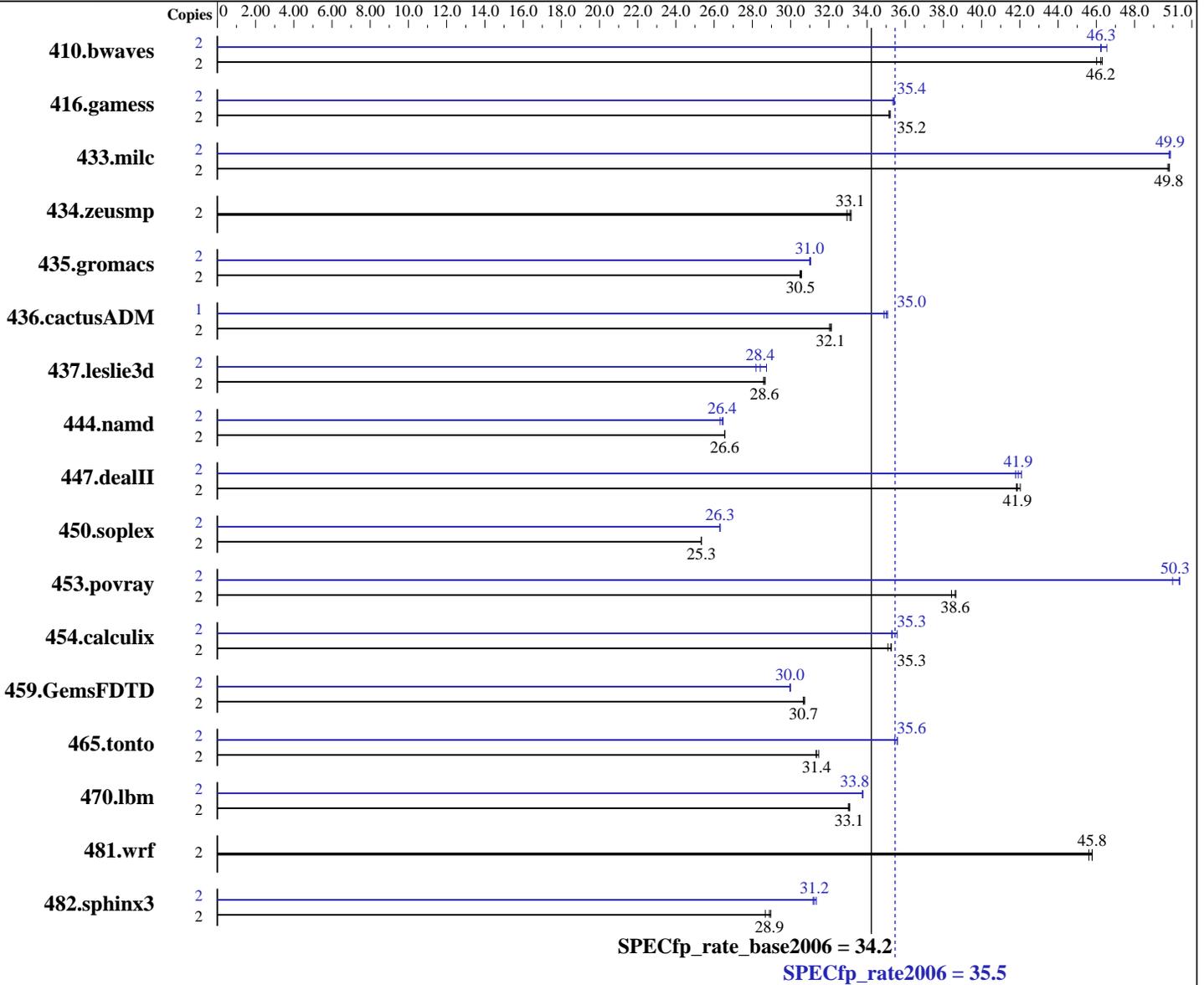
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: May-2010

Hardware Availability: Jan-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Celeron G1101  
 CPU Characteristics:  
 CPU MHz: 2267  
 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: 256 KB I+D on chip per core

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### 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)

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L3 Cache: 2 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 16 GB (4 x 4 GB PC3-10600E CL9, 2 Rank)  
 Disk Subsystem: 1 x 73 GB SAS, 15000 RPM  
 Other Hardware: None

Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	2	587	46.3	591	46.0	<b>588</b>	<b>46.2</b>	2	<b>588</b>	<b>46.3</b>	584	46.6	588	46.2		
416.gamess	2	1112	35.2	<b>1113</b>	<b>35.2</b>	1114	35.2	2	1108	35.4	1105	35.4	<b>1106</b>	<b>35.4</b>		
433.milc	2	368	49.8	369	49.7	<b>369</b>	<b>49.8</b>	2	369	49.8	368	49.9	<b>368</b>	<b>49.9</b>		
434.zeusmp	2	<b>550</b>	<b>33.1</b>	552	33.0	549	33.2	2	<b>550</b>	<b>33.1</b>	552	33.0	549	33.2		
435.gromacs	2	468	30.5	<b>468</b>	<b>30.5</b>	467	30.6	2	461	31.0	<b>461</b>	<b>31.0</b>	460	31.1		
436.cactusADM	2	744	32.1	746	32.0	<b>745</b>	<b>32.1</b>	1	<b>341</b>	<b>35.0</b>	341	35.1	342	34.9		
437.leslie3d	2	658	28.6	656	28.7	<b>657</b>	<b>28.6</b>	2	654	28.7	667	28.2	<b>662</b>	<b>28.4</b>		
444.namd	2	<b>604</b>	<b>26.6</b>	604	26.6	604	26.6	2	610	26.3	606	26.5	<b>607</b>	<b>26.4</b>		
447.dealII	2	544	42.0	547	41.8	<b>546</b>	<b>41.9</b>	2	<b>546</b>	<b>41.9</b>	544	42.1	548	41.8		
450.soplex	2	658	25.3	658	25.3	<b>658</b>	<b>25.3</b>	2	634	26.3	634	26.3	<b>634</b>	<b>26.3</b>		
453.povray	2	<b>276</b>	<b>38.6</b>	277	38.4	275	38.7	2	211	50.4	<b>211</b>	<b>50.3</b>	213	50.0		
454.calculix	2	468	35.3	<b>468</b>	<b>35.3</b>	470	35.1	2	464	35.6	467	35.3	<b>467</b>	<b>35.3</b>		
459.GemsFDTD	2	690	30.7	<b>692</b>	<b>30.7</b>	692	30.7	2	708	30.0	707	30.0	<b>708</b>	<b>30.0</b>		
465.tonto	2	625	31.5	<b>628</b>	<b>31.4</b>	628	31.3	2	553	35.6	<b>553</b>	<b>35.6</b>	555	35.4		
470.lbm	2	830	33.1	<b>831</b>	<b>33.1</b>	832	33.0	2	813	33.8	<b>814</b>	<b>33.8</b>	814	33.8		
481.wrf	2	490	45.6	488	45.8	<b>488</b>	<b>45.8</b>	2	490	45.6	488	45.8	<b>488</b>	<b>45.8</b>		
482.sphinx3	2	1346	29.0	<b>1349</b>	<b>28.9</b>	1359	28.7	2	1244	31.3	1250	31.2	<b>1248</b>	<b>31.2</b>		

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

## Submit Notes

The config file option 'submit' was used.

## Platform Notes

Turbo Mode Enable  
 Turbo Boost set to Traditional  
 CPU C State Enable

## 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

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## General Notes (Continued)

KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M

## 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.leslie3d: -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:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

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## Base Optimization Flags (Continued)

Fortran benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak 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.leslie3d: -DSPEC\_CPU\_LP64  
 444.namd: -DSPEC\_CPU\_LP64  
 447.dealII: -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



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## Peak Optimization Flags

### C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -fno-alias

470.lbm: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch  
-auto-ilp32

482.sphinx3: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -Ob0 -ansi-alias  
-scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xSSSE3 -ipo -O3 -no-prec-div -static

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -opt-prefetch -parallel  
-auto-ilp32

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## Peak Optimization Flags (Continued)

454.calculix: -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

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>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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