



# SPEC<sup>®</sup> CFP2006 Result

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## IBM Corporation

SPECfp<sup>®</sup>2006 = 22.4

### IBM System x3200 M3 (Intel Celeron G1101)

SPECfp\_base2006 = 21.6

CPU2006 license: 11

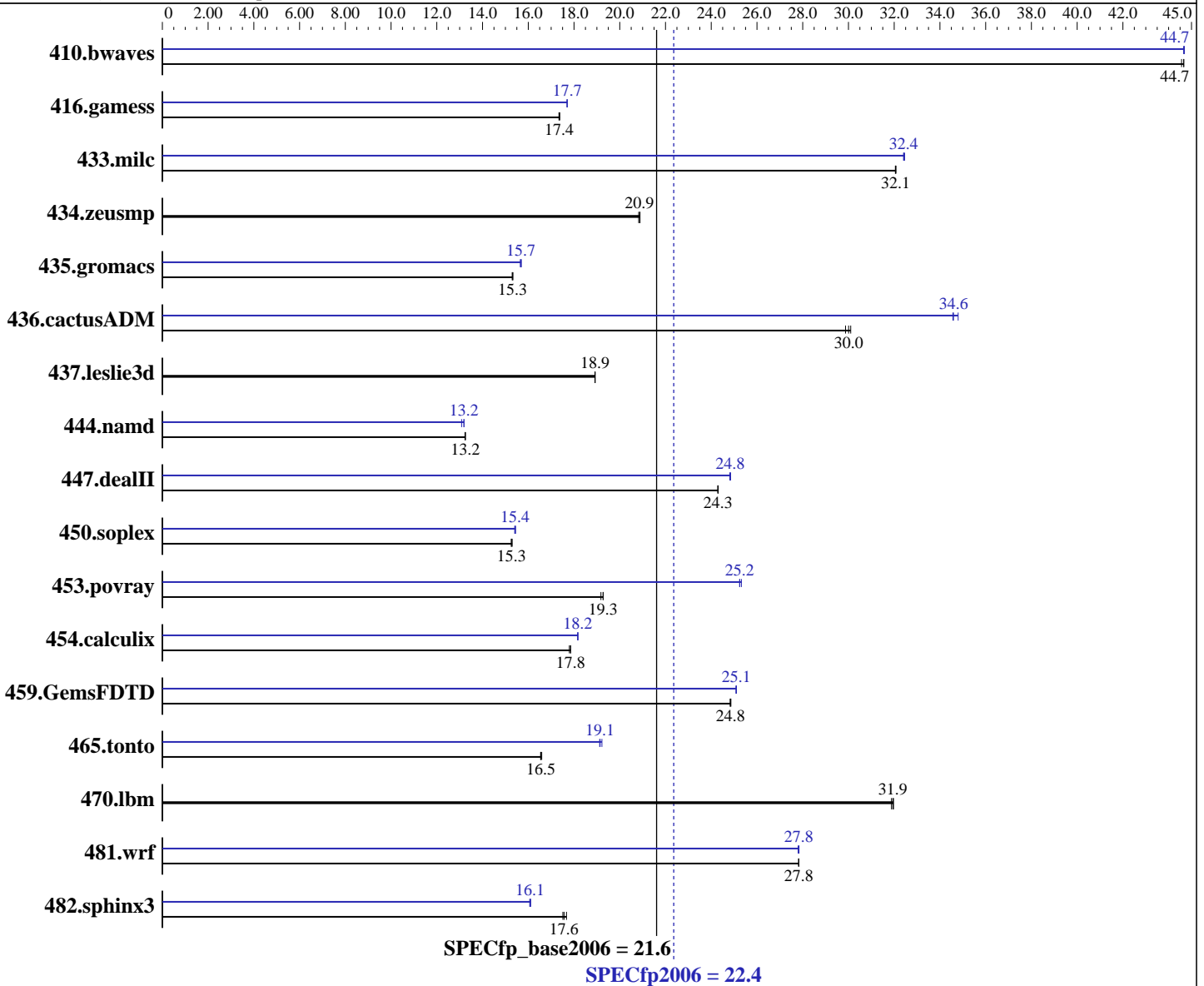
Test date: May-2010

Test sponsor: IBM Corporation

Hardware Availability: Jan-2010

Tested by: IBM Corporation

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

**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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	305	44.6	304	44.7	<b>304</b>	<b>44.7</b>	<b>304</b>	<b>44.7</b>	304	44.7	304	44.7
416.gamess	1127	17.4	1129	17.3	<b>1128</b>	<b>17.4</b>	<b>1106</b>	<b>17.7</b>	1106	17.7	1107	17.7
433.milc	286	32.1	286	32.1	<b>286</b>	<b>32.1</b>	283	32.4	283	32.5	<b>283</b>	<b>32.4</b>
434.zeusmp	<b>436</b>	<b>20.9</b>	436	20.9	437	20.8	<b>436</b>	<b>20.9</b>	436	20.9	437	20.8
435.gromacs	<b>466</b>	<b>15.3</b>	466	15.3	467	15.3	455	15.7	<b>455</b>	<b>15.7</b>	456	15.7
436.cactusADM	<b>398</b>	<b>30.0</b>	400	29.9	397	30.1	346	34.6	<b>345</b>	<b>34.6</b>	343	34.8
437.leslie3d	497	18.9	<b>497</b>	<b>18.9</b>	497	18.9	497	18.9	<b>497</b>	<b>18.9</b>	497	18.9
444.namd	<b>605</b>	<b>13.2</b>	606	13.2	605	13.3	613	13.1	608	13.2	<b>608</b>	<b>13.2</b>
447.dealII	471	24.3	471	24.3	<b>471</b>	<b>24.3</b>	461	24.8	<b>461</b>	<b>24.8</b>	460	24.8
450.soplex	545	15.3	546	15.3	<b>546</b>	<b>15.3</b>	541	15.4	540	15.4	<b>541</b>	<b>15.4</b>
453.povray	276	19.3	277	19.2	<b>276</b>	<b>19.3</b>	<b>211</b>	<b>25.2</b>	210	25.3	211	25.2
454.calculix	462	17.9	464	17.8	<b>462</b>	<b>17.8</b>	454	18.2	454	18.2	<b>454</b>	<b>18.2</b>
459.GemsFDTD	427	24.9	427	24.8	<b>427</b>	<b>24.8</b>	<b>423</b>	<b>25.1</b>	423	25.1	423	25.1
465.tonto	593	16.6	<b>595</b>	<b>16.5</b>	595	16.5	512	19.2	<b>514</b>	<b>19.1</b>	515	19.1
470.lbm	430	32.0	<b>430</b>	<b>31.9</b>	431	31.9	430	32.0	<b>430</b>	<b>31.9</b>	431	31.9
481.wrf	401	27.8	<b>401</b>	<b>27.8</b>	401	27.8	402	27.8	<b>401</b>	<b>27.8</b>	401	27.8
482.sphinx3	<b>1110</b>	<b>17.6</b>	1113	17.5	1103	17.7	<b>1212</b>	<b>16.1</b>	1213	16.1	1210	16.1

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

## 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  
KMP\_STACKSIZE set to 200M



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## 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 -parallel -opt-prefetch

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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



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

470.lbm: basepeak = yes

482.sphinx3: -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32  
-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.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-  
-opt-prefetch

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3  
-no-prec-div -static -opt-malloc-options=3 -auto-ilp32

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

Fortran benchmarks:

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## Peak Optimization Flags (Continued)

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

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: basepeak = yes

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

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

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

481.wrf: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel -auto-ilp32

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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.

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