



SPEC® CFP2006 Result

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IBM Corporation

SPECfp®2006 = 26.1

IBM System x3200 M3 (Intel Pentium G6950)

SPECfp_base2006 = 25.2

CPU2006 license: 11

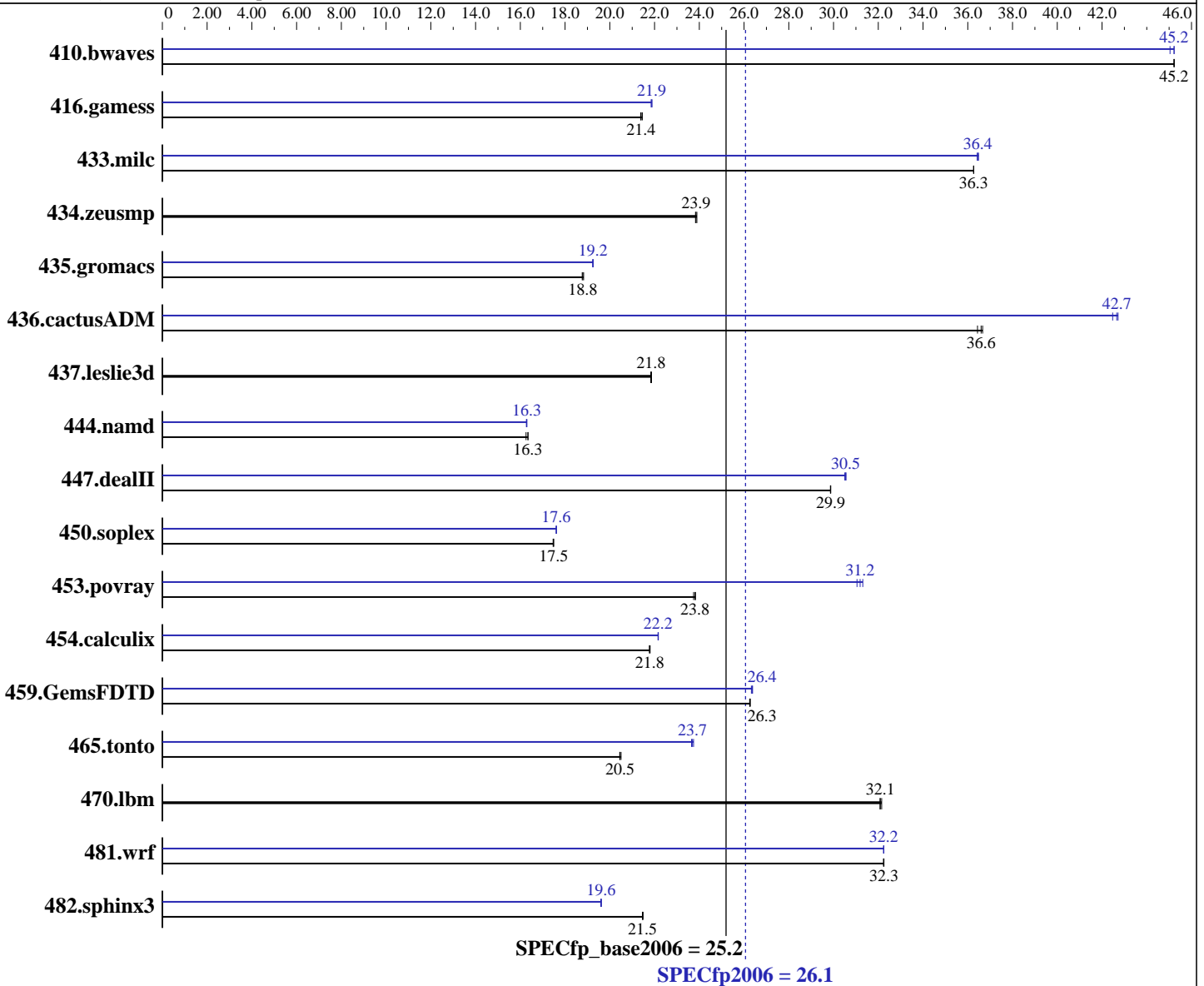
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Jan-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Pentium G6950
 CPU Characteristics:
 CPU MHz: 2800
 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: 3 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	301	45.2	<u>301</u>	<u>45.2</u>	301	45.2	<u>301</u>	<u>45.2</u>	301	45.2	302	45.0
416.gamess	916	21.4	913	21.5	<u>915</u>	<u>21.4</u>	895	21.9	<u>895</u>	<u>21.9</u>	896	21.8
433.milc	<u>253</u>	<u>36.3</u>	253	36.3	253	36.3	<u>252</u>	<u>36.4</u>	252	36.4	252	36.5
434.zeusmp	381	23.9	382	23.8	<u>382</u>	<u>23.9</u>	381	23.9	382	23.8	<u>382</u>	<u>23.9</u>
435.gromacs	<u>380</u>	<u>18.8</u>	379	18.8	380	18.8	<u>371</u>	<u>19.2</u>	371	19.3	371	19.2
436.cactusADM	328	36.4	<u>327</u>	<u>36.6</u>	326	36.7	281	42.5	280	42.7	<u>280</u>	<u>42.7</u>
437.leslie3d	430	21.9	<u>430</u>	<u>21.8</u>	431	21.8	430	21.9	<u>430</u>	<u>21.8</u>	431	21.8
444.namd	493	16.3	<u>491</u>	<u>16.3</u>	491	16.3	493	16.3	492	16.3	<u>492</u>	<u>16.3</u>
447.dealII	383	29.9	383	29.9	<u>383</u>	<u>29.9</u>	<u>375</u>	<u>30.5</u>	374	30.6	375	30.5
450.soplex	478	17.5	477	17.5	<u>477</u>	<u>17.5</u>	474	17.6	474	17.6	<u>474</u>	<u>17.6</u>
453.povray	223	23.8	224	23.7	<u>223</u>	<u>23.8</u>	170	31.3	171	31.0	<u>171</u>	<u>31.2</u>
454.calculix	378	21.8	<u>379</u>	<u>21.8</u>	379	21.8	372	22.2	<u>372</u>	<u>22.2</u>	372	22.2
459.GemsFDTD	404	26.3	404	26.3	<u>404</u>	<u>26.3</u>	402	26.4	<u>402</u>	<u>26.4</u>	403	26.3
465.tonto	480	20.5	481	20.4	<u>481</u>	<u>20.5</u>	414	23.7	<u>415</u>	<u>23.7</u>	416	23.7
470.lbm	427	32.2	<u>428</u>	<u>32.1</u>	428	32.1	427	32.2	<u>428</u>	<u>32.1</u>	428	32.1
481.wrf	<u>346</u>	<u>32.3</u>	347	32.2	346	32.3	347	32.2	346	32.2	<u>346</u>	<u>32.2</u>
482.sphinx3	908	21.5	907	21.5	<u>908</u>	<u>21.5</u>	<u>994</u>	<u>19.6</u>	993	19.6	994	19.6

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.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:

-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.

Tested with SPEC CPU2006 v1.1.

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