SPEC® CFP2006 Result

IBM Corporation

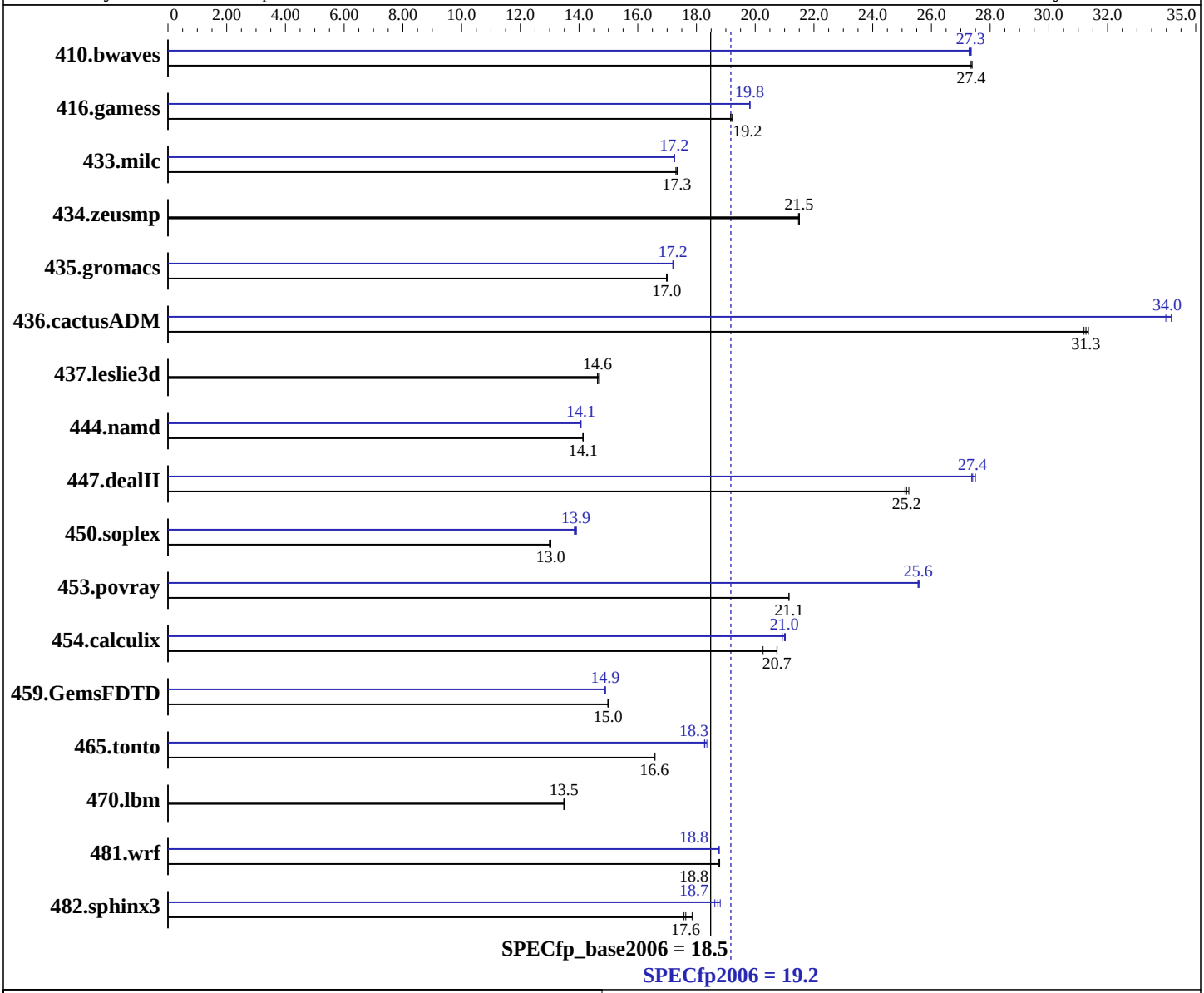
IBM System x3250 M2 (Intel Pentium E5300)

SPECfp®2006 = 19.2

SPECfp_base2006 = 18.5

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Jun-2009
Hardware Availability: Apr-2009
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Pentium E5300
CPU Characteristics:	800 MHz system bus
CPU MHz:	2600
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:	2 MB I+D on chip per chip

Continued on next page

Software

Operating System:	SuSE Linux Enterprise Server 10(x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_cprof_p_11.0.066
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB(4 x 2 GB DDR2-6400E ECC)
Disk Subsystem: 1 x 250 GB SATA, 7200RPM
Other Hardware: None

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	497	27.3	496	27.4	**497**	**27.4**	**497**	**27.3**	498	27.3	497	27.4
416.gamess	1019	19.2	**1021**	**19.2**	1022	19.2	988	19.8	988	19.8	**988**	**19.8**
433.milc	**530**	**17.3**	529	17.3	531	17.3	532	17.2	532	17.3	**532**	**17.2**
434.zeusmp	423	21.5	424	21.5	**423**	**21.5**	423	21.5	424	21.5	**423**	**21.5**
435.gromacs	**420**	**17.0**	421	17.0	420	17.0	**415**	**17.2**	415	17.2	415	17.2
436.cactusADM	**382**	**31.3**	383	31.2	381	31.3	350	34.2	**351**	**34.0**	352	34.0
437.leslie3d	643	14.6	641	14.7	**643**	**14.6**	643	14.6	641	14.7	**643**	**14.6**
444.namd	568	14.1	567	14.1	**567**	**14.1**	570	14.1	570	14.1	**570**	**14.1**
447.dealII	456	25.1	453	25.2	**455**	**25.2**	416	27.5	**417**	**27.4**	418	27.4
450.soplex	640	13.0	**640**	**13.0**	642	13.0	600	13.9	**600**	**13.9**	603	13.8
453.povray	252	21.2	252	21.1	**252**	**21.1**	208	25.5	208	25.6	**208**	**25.6**
454.calculix	398	20.7	**398**	**20.7**	407	20.3	392	21.0	**393**	**21.0**	394	20.9
459.GemsFDTD	708	15.0	707	15.0	**708**	**15.0**	**712**	**14.9**	713	14.9	712	14.9
465.tonto	593	16.6	**594**	**16.6**	594	16.6	539	18.3	**538**	**18.3**	536	18.4
470.lbm	**1019**	**13.5**	1018	13.5	1019	13.5	**1019**	**13.5**	1018	13.5	1019	13.5
481.wrf	594	18.8	**595**	**18.8**	595	18.8	595	18.8	596	18.8	**595**	**18.8**
482.sphinx3	1109	17.6	**1105**	**17.6**	1092	17.9	1046	18.6	1036	18.8	**1041**	**18.7**

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

General Notes

```
Hardware Sector Prefetch Enable and Adjacent Sector Prefetch Enable
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

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Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

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Peak Compiler Invocation (Continued)

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):
icpc

450.soplex: icpc -m32

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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

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 -unroll2

C++ benchmarks:

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

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Peak Optimization Flags (Continued)

447.dealII: -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

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 -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-ic11.0-fp-linux64-revA.20090827.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090827.xml

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

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