SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

$SPECfp^®2006 =$ 28.9

IBM System x3850 X5 (Intel Xeon E7520)

$SPECfp\_base2006 =$ 26.9

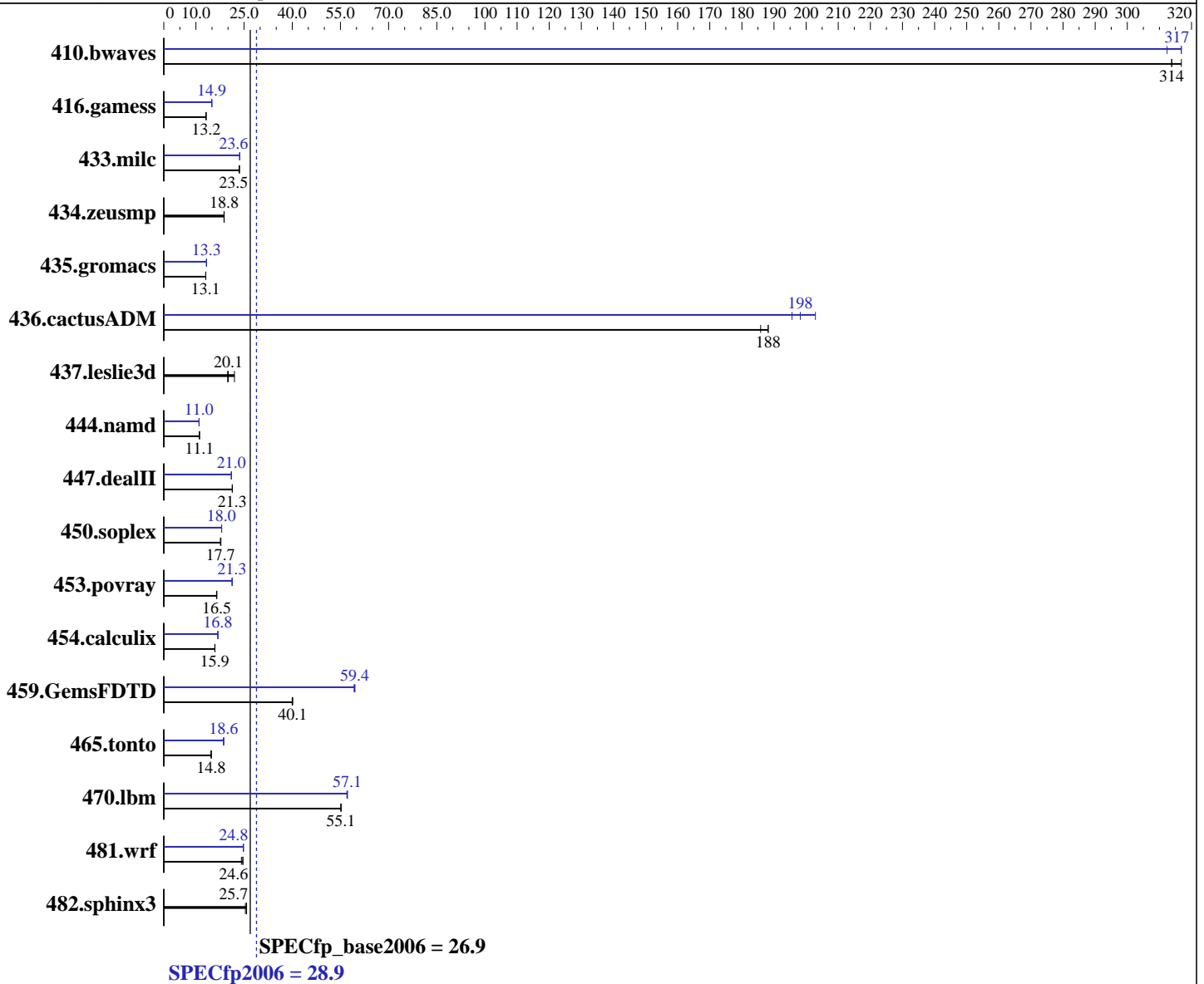|			
CPU2006 license: 11		**Test date:**	Apr-2010
Test sponsor: IBM Corporation		**Hardware Availability:**	Mar-2010
Tested by: IBM Corporation		**Software Availability:**	Jan-2010

410.bwaves 317 / 314
416.gamess 14.9 / 13.2
433.milc 23.6 / 23.5
434.zeusmp 18.8
435.gromacs 13.3 / 13.1
436.cactusADM 198 / 188
437.leslie3d 20.1
444.namd 11.0 / 11.1
447.dealII 21.0 / 21.3
450.soplex 18.0 / 17.7
453.povray 21.3 / 16.5
454.calculix 16.8 / 15.9
459.GemsFDTD 59.4 / 40.1
465.tonto 18.6 / 14.8
470.lbm 57.1 / 55.1
481.wrf 24.8 / 24.6
482.sphinx3 25.7

SPECfp_base2006 = 26.9
SPECfp2006 = 28.9

Hardware

CPU Name:	Intel Xeon E7520
CPU Characteristics:	
CPU MHz:	1867
FPU:	Integrated
CPU(s) enabled:	16 cores, 4 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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 2.6.17.29-5-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

IBM System x3850 X5 (Intel Xeon E7520)

SPECfp2006 =	28.9
SPECfp_base2006 =	26.9

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

Test date: Apr-2010
Hardware Availability: Mar-2010
Software Availability: Jan-2010

L3 Cache:	18 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	256 GB (64 x 4 GB PC3-8500R, Quad Rank, running at 800 MHz)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	3 x 50 GB SATA, SSD		
Other Hardware:	None		

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	43.3	314	**43.3**	**314**	42.9	317	43.5	312	42.9	317	**42.9**	**317**
416.gamess	**1487**	**13.2**	1487	13.2	1488	13.2	1309	15.0	1311	14.9	**1310**	**14.9**
433.milc	390	23.5	**390**	**23.5**	391	23.5	**388**	**23.6**	388	23.6	389	23.6
434.zeusmp	486	18.7	484	18.8	**484**	**18.8**	486	18.7	484	18.8	**484**	**18.8**
435.gromacs	547	13.1	546	13.1	**547**	**13.1**	537	13.3	**537**	**13.3**	538	13.3
436.cactusADM	64.3	186	63.5	188	**63.5**	**188**	58.9	203	**60.3**	**198**	61.1	196
437.leslie3d	**468**	**20.1**	473	19.9	427	22.0	**468**	**20.1**	473	19.9	427	22.0
444.namd	723	11.1	723	11.1	**723**	**11.1**	729	11.0	732	11.0	**730**	**11.0**
447.dealII	537	21.3	536	21.3	**536**	**21.3**	**544**	**21.0**	544	21.0	544	21.0
450.soplex	**470**	**17.7**	469	17.8	473	17.6	463	18.0	464	18.0	**464**	**18.0**
453.povray	324	16.4	322	16.5	**323**	**16.5**	251	21.2	249	21.4	**250**	**21.3**
454.calculix	518	15.9	519	15.9	**519**	**15.9**	**490**	**16.8**	490	16.8	490	16.8
459.GemsFDTD	265	40.0	**265**	**40.1**	264	40.1	**178**	**59.4**	178	59.5	179	59.2
465.tonto	**666**	**14.8**	668	14.7	666	14.8	529	18.6	**528**	**18.6**	527	18.7
470.lbm	**249**	**55.1**	249	55.1	249	55.2	240	57.2	241	57.0	**241**	**57.1**
481.wrf	453	24.6	462	24.2	**454**	**24.6**	**451**	**24.8**	450	24.8	451	24.8
482.sphinx3	767	25.4	756	25.8	**757**	**25.7**	767	25.4	756	25.8	**757**	**25.7**

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

Platform Notes

```
    Demand Scrub disabled
```

General Notes

```
    OMP_NUM_THREADS set to number of cores
    KMP_AFFINITY set to granularity=fine,scatter
    KMP_STACKSIZE set to 200M
    'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3850 X5 (Intel Xeon E7520)

$SPECfp2006 = 28.9$

$SPECfp\_base2006 = 26.9$

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

Test date: Apr-2010
Hardware Availability: Mar-2010
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.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:
    -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

IBM System x3850 X5 (Intel Xeon E7520)

$SPECfp2006 =$ 28.9

$SPECfp\_base2006 =$ 26.9

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

Test date: Apr-2010
Hardware Availability: Mar-2010
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: -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)
          -fno-alias -auto-ilp32

447.dealII: -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 -ansi-alias -scalar-rep- -auto-ilp32

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
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3850 X5 (Intel Xeon E7520)

$SPECfp2006 =$ 28.9

$SPECfp\_base2006 =$ 26.9

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

Test date: Apr-2010
Hardware Availability: Mar-2010
Software Availability: Jan-2010

Peak Optimization Flags (Continued)

Fortran benchmarks:

    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-calloc -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

IBM System x3850 X5 (Intel Xeon E7520)

SPECfp2006 = 28.9

SPECfp_base2006 = 26.9

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

Test date: Apr-2010
Hardware Availability: Mar-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.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 07:11:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 May 2010.