SPEC® CFP2006 Result

IBM Corporation

$SPECfp®\_rate2006 =$ 287

IBM System x3850 X5 (Intel Xeon E7520)

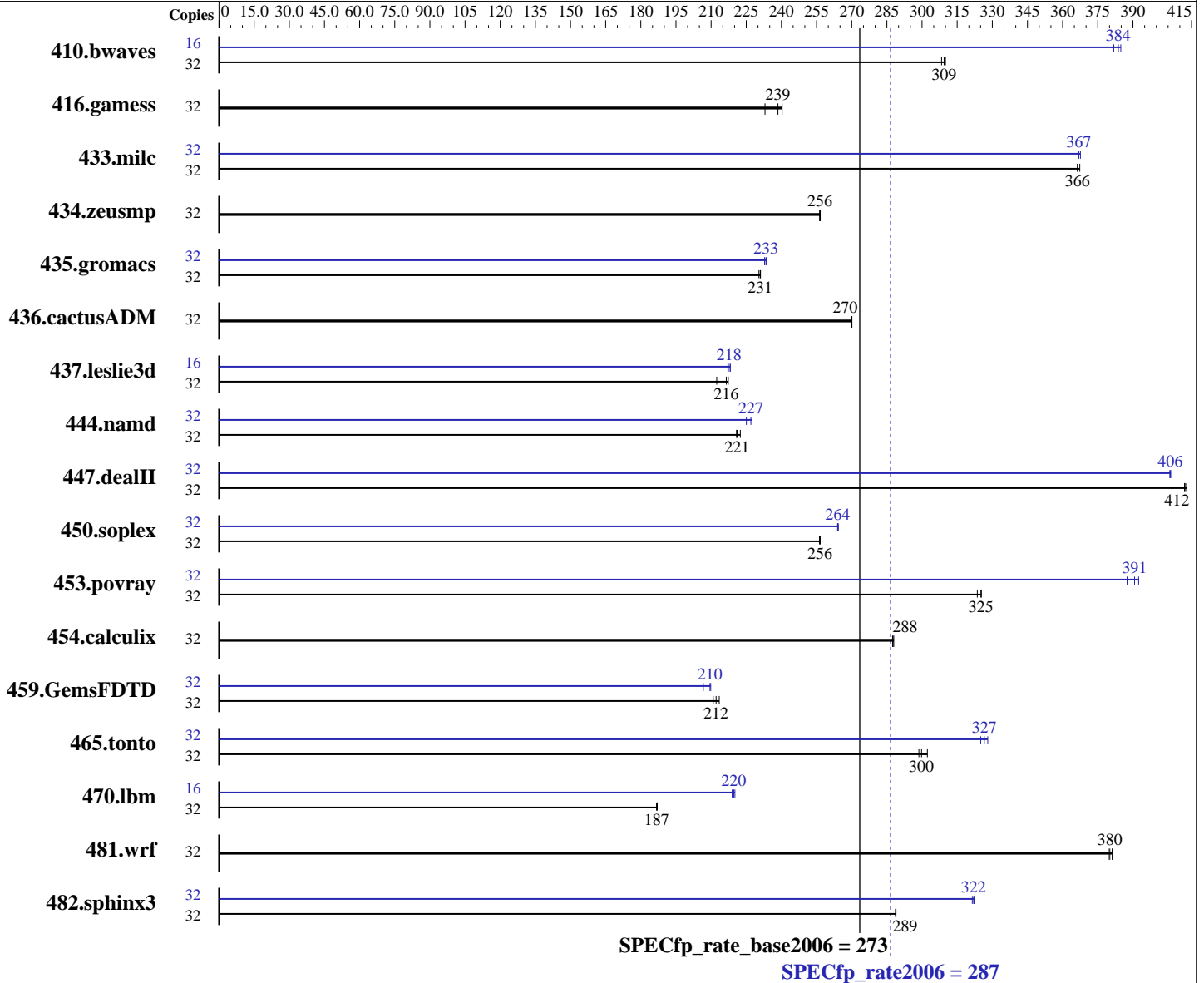$SPECfp\_rate\_base2006 =$ 273

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010

Benchmark	Copies	Result
410.bwaves	16	384
	32	309
416.gamess	32	239
433.milc	32	367
	32	366
434.zeusmp	32	256
435.gromacs	32	233
	32	231
436.cactusADM	32	270
437.leslie3d	16	218
	32	216
444.namd	32	227
	32	221
447.dealII	32	406
	32	412
450.soplex	32	264
	32	256
453.povray	32	391
	32	325
454.calculix	32	288
459.GemsFDTD	32	210
	32	212
465.tonto	32	327
	32	300
470.lbm	16	220
	32	187
481.wrf	32	380
482.sphinx3	32	322
	32	289

SPECfp_rate_base2006 = 273

SPECfp_rate2006 = 287

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: No

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)

SPECfp_rate2006 = 287

SPECfp_rate_base2006 = 273

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
Other Cache:	None
Memory:	256 GB (64 x 4 GB PC3-8500R, Quad Rank, running at 800 MHz)
Disk Subsystem:	3 x 50 GB SATA, SSD
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	1410	308	1403	310	**1405**	**309**	16	569	382	565	385	**567**	**384**
416.gamess	32	2607	240	2689	233	**2627**	**239**	32	2607	240	2689	233	**2627**	**239**
433.milc	32	800	367	**802**	**366**	802	366	32	**801**	**367**	801	367	799	368
434.zeusmp	32	1136	256	**1136**	**256**	1135	257	32	1136	256	**1136**	**256**	1135	257
435.gromacs	32	**989**	**231**	989	231	992	230	32	979	233	981	233	**979**	**233**
436.cactusADM	32	1416	270	1416	270	**1416**	**270**	32	1416	270	1416	270	**1416**	**270**
437.leslie3d	32	1384	217	1416	212	**1389**	**216**	16	**691**	**218**	693	217	689	218
444.namd	32	1162	221	1154	222	**1161**	**221**	32	**1131**	**227**	1128	227	1140	225
447.dealII	32	887	413	**888**	**412**	889	412	32	901	406	902	406	**902**	**406**
450.soplex	32	**1041**	**256**	1042	256	1040	257	32	1011	264	1010	264	**1011**	**264**
453.povray	32	523	325	**524**	**325**	526	324	32	439	388	434	392	**436**	**391**
454.calculix	32	**918**	**288**	918	287	917	288	32	**918**	**288**	918	287	917	288
459.GemsFDTD	32	1610	211	**1601**	**212**	1591	213	32	1618	210	1643	207	**1621**	**210**
465.tonto	32	1054	299	**1050**	**300**	1042	302	32	960	328	**964**	**327**	969	325
470.lbm	32	2355	187	**2353**	**187**	2351	187	16	999	220	1004	219	**1001**	**220**
481.wrf	32	938	381	**940**	**380**	942	380	32	938	381	**940**	**380**	942	380
482.sphinx3	32	**2160**	**289**	2159	289	2160	289	32	1940	321	**1937**	**322**	1936	322

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.
    numactl was used to bind copies to the cores
```

Platform Notes

```
   Demand Scrub disabled
```

General Notes

```
      '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)

SPECfp_rate2006 =   287

SPECfp_rate_base2006 =   273

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

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3850 X5 (Intel Xeon E7520)

SPECfp_rate2006 =   287

SPECfp_rate_base2006 =   273

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 (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`

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)`
             `-fno-alias -opt-prefetch`

       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)`
             `-opt-malloc-options=3 -ansi-alias -auto-ilp32`

Continued on next page

IBM Corporation

IBM System x3850 X5 (Intel Xeon E7520)

SPECfp_rate2006 =   287

SPECfp_rate_base2006 = 273

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)

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`

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-`

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`

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`

Fortran benchmarks:

410.bwaves: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

416.gamess: `basepeak = yes`

434.zeusmp: `basepeak = yes`

437.leslie3d: `-xSSE4.2 -ipo -O3 -no-prec-div -static`

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`

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)`
`-unroll4 -auto -inline-calloc -opt-malloc-options=3`

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: `basepeak = yes`

454.calculix: `basepeak = yes`

481.wrf: `basepeak = yes`

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3850 X5 (Intel Xeon E7520)

SPECfp_rate2006 =   287

SPECfp_rate_base2006 =   273

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

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 07:02:23 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 May 2010.