SPEC® CFP2006 Result

IBM Corporation

$SPECfp^®\_rate2006 =$ 169

IBM System x iDataPlex dx360 M3 (Intel Xeon E5620)

$SPECfp\_rate\_base2006 =$ 163
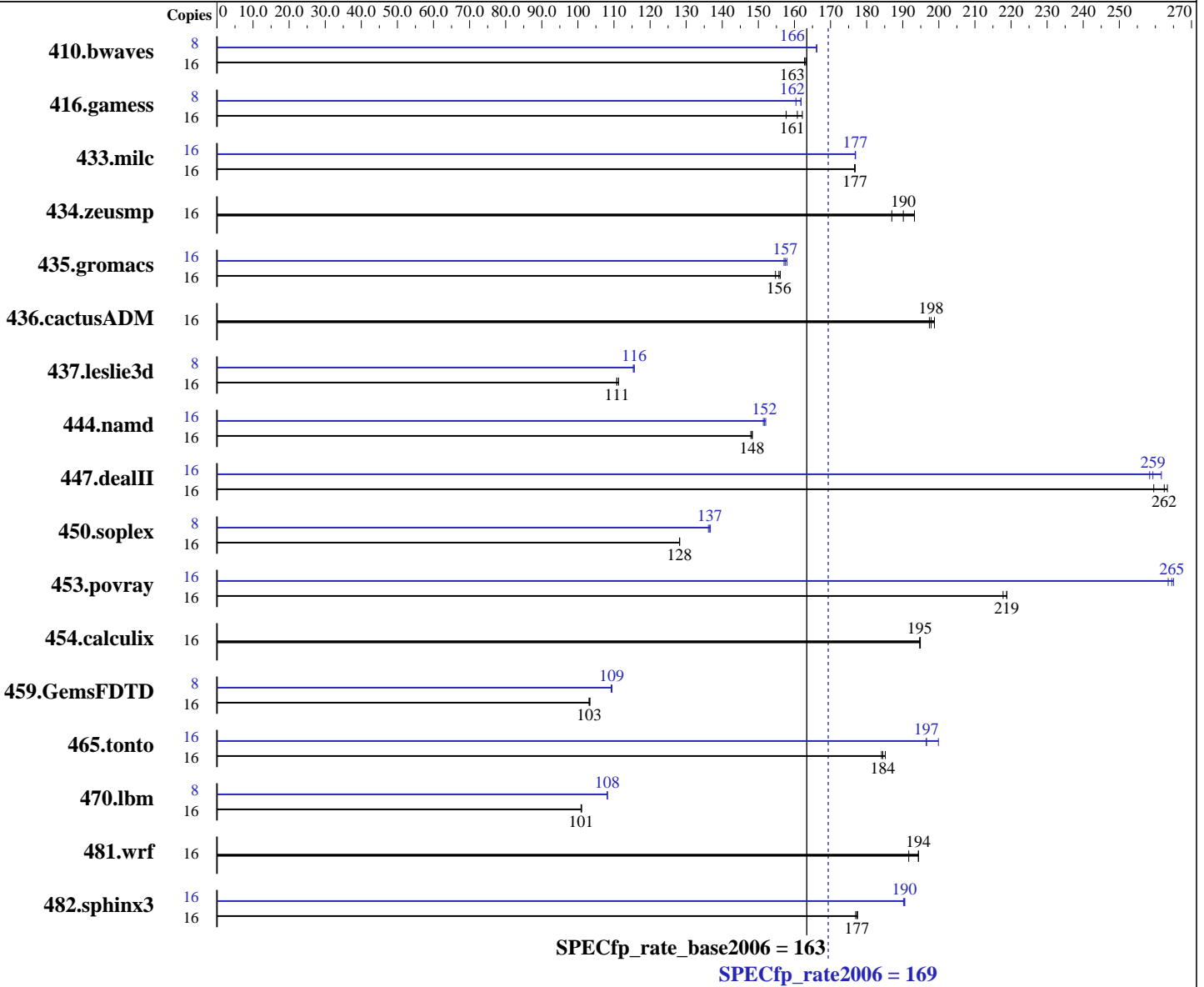
CPU2006 license: 11　　　　　　　　　　　　　　　　　　　　　　**Test date:** May-2010
Test sponsor: IBM Corporation　　　　　　　　　　　　　　**Hardware Availability:** Jun-2010
Tested by: IBM Corporation　　　　　　　　　　　　　　　　**Software Availability:** Jan-2010

SPECfp_rate_base2006 = 163

SPECfp_rate2006 = 169

Hardware

CPU Name: Intel Xeon E5620
CPU Characteristics: Intel Turbo Boost Technology up to 2.66 GHz
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chip
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 2.6.27.19-5-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: 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 x iDataPlex dx360 M3 (Intel Xeon E5620)

SPECfp_rate2006 =   169

SPECfp_rate_base2006 =   163

CPU2006 license: 11		**Test date:** May-2010
Test sponsor: IBM Corporation		**Hardware Availability:** Jun-2010
Tested by: IBM Corporation		**Software Availability:** Jan-2010

L3 Cache:	12 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	48 GB (12 x 4 GB PC3-10600R-ECC, CL9)	Other Software:	None
Disk Subsystem:	1 x 73 GB SAS, 15000RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	16	1333	163	1336	163	**1335**	**163**	8	654	166	**654**	**166**	655	166
416.gamess	16	1986	158	**1948**	**161**	1932	162	8	976	160	968	162	**968**	**162**
433.milc	16	831	177	**831**	**177**	831	177	16	**831**	**177**	830	177	831	177
434.zeusmp	16	753	193	779	187	**766**	**190**	16	753	193	779	187	**766**	**190**
435.gromacs	16	**734**	**156**	738	155	732	156	16	723	158	**726**	**157**	727	157
436.cactusADM	16	**966**	**198**	969	197	962	199	16	**966**	**198**	969	197	962	199
437.leslie3d	16	1351	111	1358	111	**1357**	**111**	8	650	116	652	115	**651**	**116**
444.namd	16	**865**	**148**	868	148	865	148	16	**846**	**152**	848	151	844	152
447.dealII	16	705	260	695	263	**697**	**262**	16	700	262	**706**	**259**	708	258
450.soplex	16	1041	128	**1041**	**128**	1041	128	8	490	136	488	137	**489**	**137**
453.povray	16	**389**	**219**	391	218	389	219	16	**322**	**265**	323	264	321	265
454.calculix	16	678	195	**678**	**195**	677	195	16	678	195	**678**	**195**	677	195
459.GemsFDTD	16	1642	103	**1645**	**103**	1647	103	8	776	109	777	109	**776**	**109**
465.tonto	16	855	184	**853**	**184**	850	185	16	788	200	801	197	**801**	**197**
470.lbm	16	2176	101	**2178**	**101**	2179	101	8	1016	108	1017	108	**1016**	**108**
481.wrf	16	**920**	**194**	920	194	932	192	16	**920**	**194**	920	194	932	192
482.sphinx3	16	1757	177	1762	177	**1759**	**177**	16	1636	191	1639	190	**1637**	**190**

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

    Turbo Mode Enable
    Turbo Boost set to Traditional
    CPU C State Enable
    Data Reuse Disable

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x iDataPlex dx360 M3 (Intel Xeon E5620)

$SPECfp\_rate2006 = \quad 169$

$SPECfp\_rate\_base2006 = \quad 163$

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

Test date: May-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010

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
```

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

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x iDataPlex dx360 M3 (Intel Xeon E5620)

$SPECfp\_rate2006 =$ 169

$SPECfp\_rate\_base2006 =$ 163

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

Test date: May-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010

Base Optimization Flags (Continued)

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

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

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
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x iDataPlex dx360 M3 (Intel Xeon E5620)

SPECfp_rate2006 = 169

SPECfp_rate_base2006 = 163

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

Test date: May-2010
Hardware Availability: Jun-2010
Software Availability: Jan-2010

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`

> 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: `-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: `-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`

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x iDataPlex dx360 M3 (Intel Xeon E5620)

$SPECfp_rate2006 = $ **169**

$SPECfp_rate_base2006 = $ **163**

CPU2006 license: 11		**Test date:**	May-2010
Test sponsor:	IBM Corporation	**Hardware Availability:**	Jun-2010
Tested by:	IBM Corporation	**Software Availability:**	Jan-2010

Peak Optimization Flags (Continued)

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`

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`

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 07:53:45 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 1 June 2010.