



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp®_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

CPU2006 license: 11

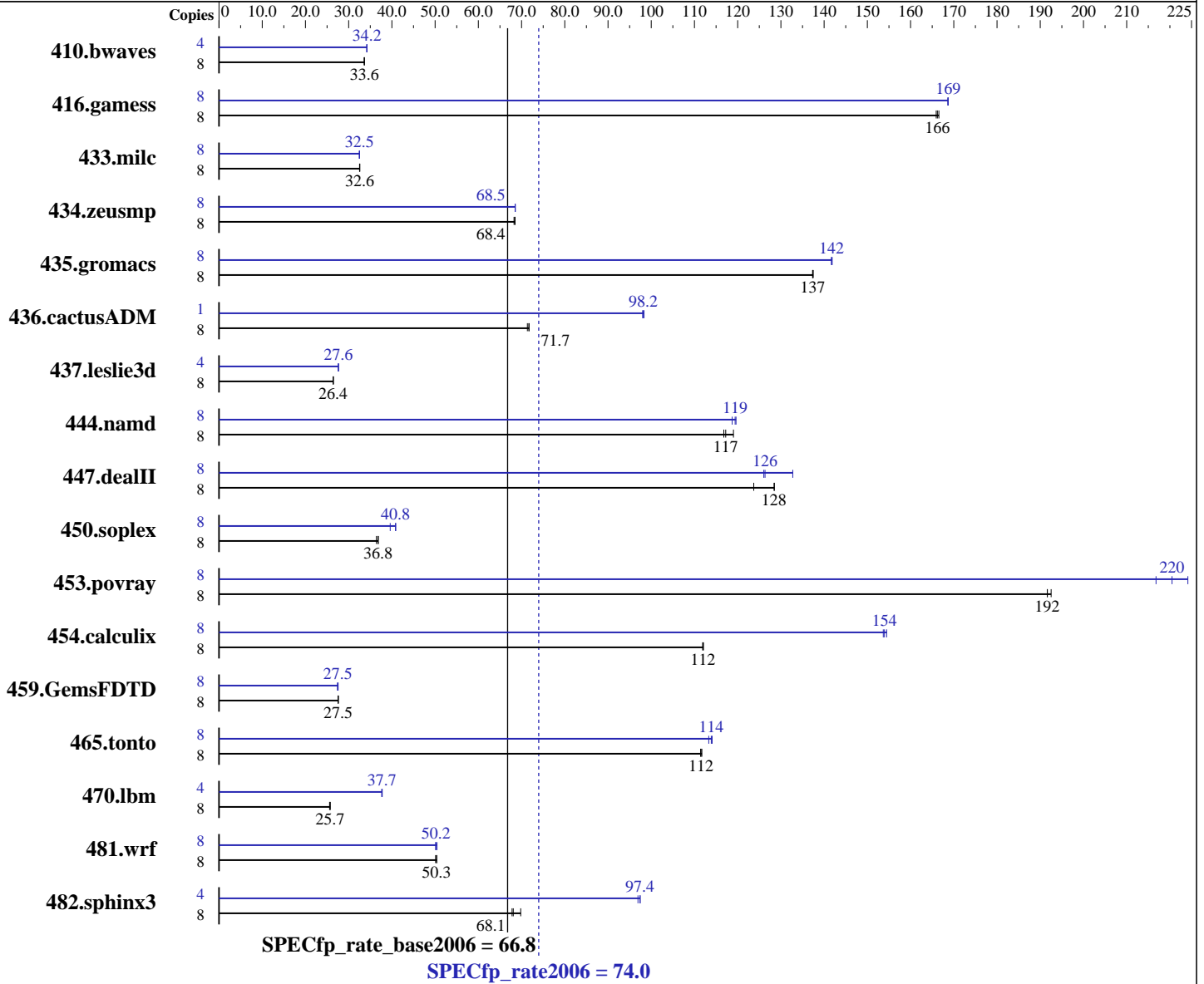
Test date: Apr-2008

Test sponsor: IBM Corporation

Hardware Availability: Jun-2008

Tested by: IBM Corporation

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 2833
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

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

Test date: Apr-2008
Hardware Availability: Jun-2008
Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem: 1 x 160 GB SATA, 7200 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3234	33.6	<u>3233</u>	<u>33.6</u>	3232	33.6	4	1590	34.2	<u>1589</u>	<u>34.2</u>	1588	34.2
416.gamess	8	<u>942</u>	<u>166</u>	941	167	944	166	8	929	169	<u>928</u>	<u>169</u>	928	169
433.milc	8	2259	32.5	2255	32.6	<u>2256</u>	<u>32.6</u>	8	2261	32.5	<u>2261</u>	<u>32.5</u>	2258	32.5
434.zeusmp	8	<u>1064</u>	<u>68.4</u>	1067	68.3	1063	68.5	8	<u>1062</u>	<u>68.5</u>	1062	68.5	1063	68.5
435.gromacs	8	<u>416</u>	<u>137</u>	416	137	415	137	8	403	142	<u>403</u>	<u>142</u>	403	142
436.cactusADM	8	1340	71.3	<u>1334</u>	<u>71.7</u>	1333	71.7	1	122	98.0	122	98.3	<u>122</u>	<u>98.2</u>
437.leslie3d	8	2847	26.4	2844	26.4	<u>2845</u>	<u>26.4</u>	4	1362	27.6	<u>1361</u>	<u>27.6</u>	1361	27.6
444.namd	8	549	117	539	119	<u>547</u>	<u>117</u>	8	540	119	<u>537</u>	<u>119</u>	536	120
447.dealII	8	740	124	712	128	<u>713</u>	<u>128</u>	8	<u>724</u>	<u>126</u>	689	133	726	126
450.soplex	8	1833	36.4	1810	36.9	<u>1814</u>	<u>36.8</u>	8	1684	39.6	1631	40.9	<u>1634</u>	<u>40.8</u>
453.povray	8	221	193	<u>222</u>	<u>192</u>	222	192	8	196	217	190	224	<u>193</u>	<u>220</u>
454.calculix	8	589	112	590	112	<u>590</u>	<u>112</u>	8	427	154	429	154	<u>429</u>	<u>154</u>
459.GemsFDTD	8	3083	27.5	3071	27.6	<u>3081</u>	<u>27.5</u>	8	3097	27.4	3080	27.6	<u>3089</u>	<u>27.5</u>
465.tonto	8	707	111	705	112	<u>706</u>	<u>112</u>	8	690	114	695	113	<u>691</u>	<u>114</u>
470.lbm	8	4297	25.6	<u>4276</u>	<u>25.7</u>	4272	25.7	4	1455	37.8	1459	37.7	<u>1459</u>	<u>37.7</u>
481.wrf	8	<u>1775</u>	<u>50.3</u>	1774	50.4	1784	50.1	8	1783	50.1	<u>1781</u>	<u>50.2</u>	1772	50.4
482.sphinx3	8	2234	69.8	2300	67.8	<u>2290</u>	<u>68.1</u>	4	804	96.9	800	97.4	<u>800</u>	<u>97.4</u>

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

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
Hardware Sector Prefetch Disabled and Adjacent Sector Prefetch Disabled
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
taskset utility used to bind CPU(s) to processes

Base Compiler Invocation

C benchmarks:
icc

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

CPU2006 license: 11

Test date: Apr-2008

Test sponsor: IBM Corporation

Hardware Availability: Jun-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

Base Compiler Invocation (Continued)

C++ benchmarks:
icpc

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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

CPU2006 license: 11

Test date: Apr-2008

Test sponsor: IBM Corporation

Hardware Availability: Jun-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/include
```

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
444.namd: -DSPEC_CPU_LP64
447.deall: -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
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) -fast -fno-alias
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

CPU2006 license: 11

Test date: Apr-2008

Test sponsor: IBM Corporation

Hardware Availability: Jun-2008

Tested by: IBM Corporation

Software Availability: Nov-2007

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090714.html>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 74.0

IBM System x iDataPlex dx340 (Intel Xeon E5440)

SPECfp_rate_base2006 = 66.8

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Apr-2008

Hardware Availability: Jun-2008

Software Availability: Nov-2007

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090714.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 v1.0.
Report generated on Tue Sep 23 17:48:00 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 May 2008.