



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp<sup>®</sup>2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

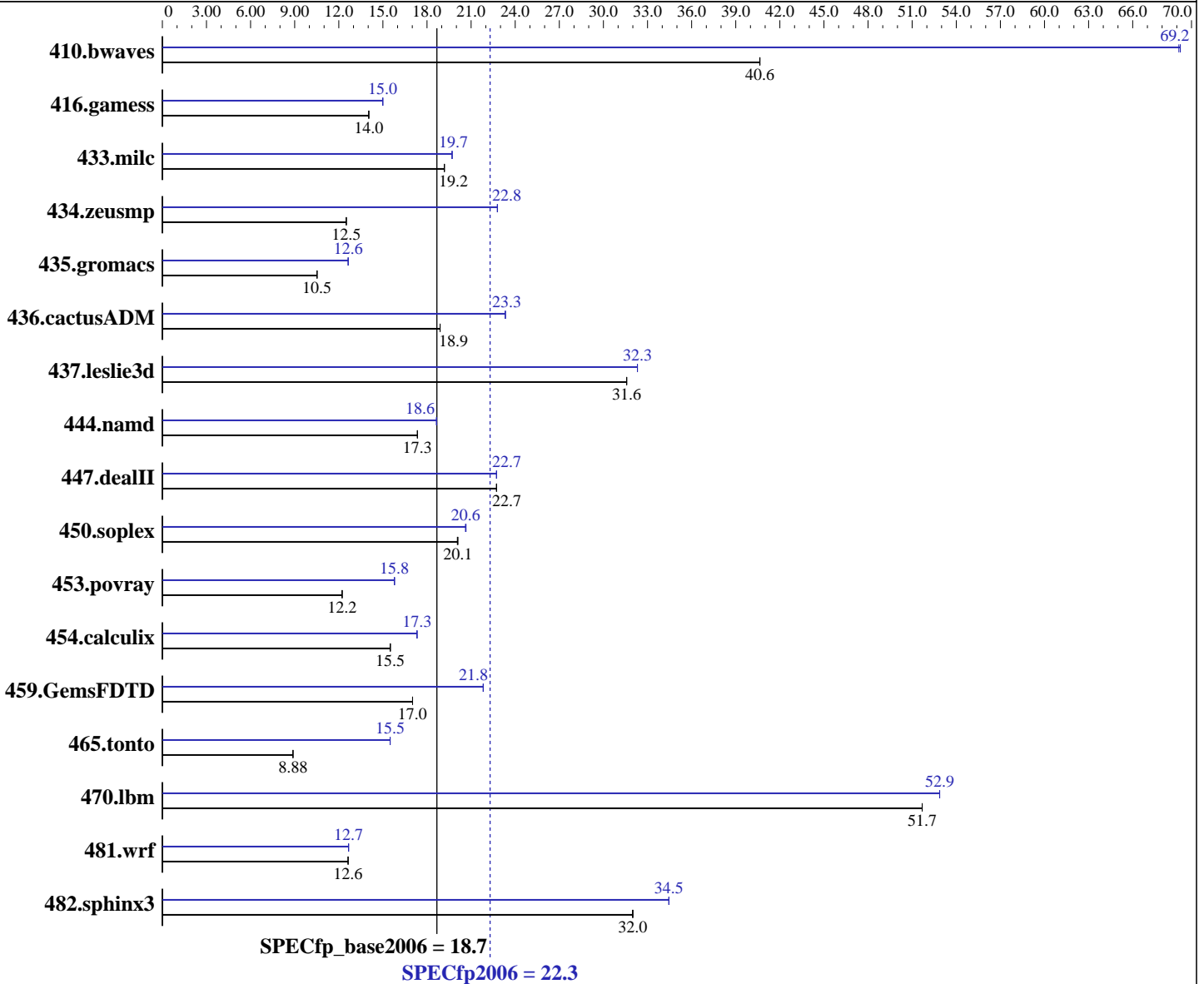
Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007



### Hardware

CPU Name: POWER6  
 CPU Characteristics:  
 CPU MHz: 4700  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip  
 CPU(s) orderable: 4,8,12,16 cores  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per core

### Software

Operating System: IBM AIX 5L V5.3  
 Compiler: XL C/C++ Enterprise Edition Version 9.0 for AIX  
 XL Fortran Enterprise Edition Version 11.1 for AIX  
 Auto Parallel: No  
 File System: AIX/JFS2  
 System State: Multi-user  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: --

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007

L3 Cache: 32 MB I+D off chip per chip  
 Other Cache: None  
 Memory: 16 GB (8x2 GB) DDR2 667 MHz  
 Disk Subsystem: 1x73 GB 1x146 GB SAS 15K RPM  
 Other Hardware: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b>334</b>	<b>40.6</b>	334	40.6	334	40.6	197	69.1	196	69.2	<b>196</b>	<b>69.2</b>
416.gamess	1395	14.0	<b>1395</b>	<b>14.0</b>	1395	14.0	1306	15.0	<b>1306</b>	<b>15.0</b>	1306	15.0
433.milc	479	19.2	479	19.2	<b>479</b>	<b>19.2</b>	466	19.7	<b>466</b>	<b>19.7</b>	466	19.7
434.zeusmp	<b>727</b>	<b>12.5</b>	728	12.5	727	12.5	399	22.8	<b>399</b>	<b>22.8</b>	399	22.8
435.gromacs	679	10.5	<b>679</b>	<b>10.5</b>	679	10.5	<b>565</b>	<b>12.6</b>	565	12.6	565	12.6
436.cactusADM	633	18.9	<b>633</b>	<b>18.9</b>	633	18.9	<b>512</b>	<b>23.3</b>	513	23.3	512	23.3
437.leslie3d	298	31.6	298	31.6	<b>298</b>	<b>31.6</b>	291	32.3	291	32.3	<b>291</b>	<b>32.3</b>
444.namd	462	17.3	462	17.3	<b>462</b>	<b>17.3</b>	430	18.6	430	18.6	<b>430</b>	<b>18.6</b>
447.dealII	503	22.7	503	22.7	<b>503</b>	<b>22.7</b>	503	22.7	503	22.7	<b>503</b>	<b>22.7</b>
450.soplex	416	20.1	<b>415</b>	<b>20.1</b>	415	20.1	404	20.6	<b>404</b>	<b>20.6</b>	404	20.7
453.povray	435	12.2	<b>435</b>	<b>12.2</b>	435	12.2	337	15.8	<b>337</b>	<b>15.8</b>	337	15.8
454.calculix	532	15.5	<b>532</b>	<b>15.5</b>	532	15.5	<b>476</b>	<b>17.3</b>	476	17.3	477	17.3
459.GemsFDTD	623	17.0	<b>623</b>	<b>17.0</b>	624	17.0	486	21.8	486	21.8	<b>486</b>	<b>21.8</b>
465.tonto	1107	8.88	<b>1108</b>	<b>8.88</b>	1108	8.88	635	15.5	<b>635</b>	<b>15.5</b>	635	15.5
470.lbm	266	51.7	266	51.7	<b>266</b>	<b>51.7</b>	260	52.9	260	52.9	<b>260</b>	<b>52.9</b>
481.wrf	884	12.6	884	12.6	<b>884</b>	<b>12.6</b>	<b>882</b>	<b>12.7</b>	882	12.7	882	12.7
482.sphinx3	609	32.0	<b>609</b>	<b>32.0</b>	609	32.0	566	34.5	<b>566</b>	<b>34.5</b>	566	34.4

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

## General Notes

AIX 5L V5.3 updated with the 5300-06 Technology Level.

See flags file of details on following settings.

all ulimits set to unlimited

Environment variables set before executing benchmarks:

MALLOCOPTIONS=pool

MEMORY\_AFFINITY=MCM

XLFRTIOPTS=intrinthds=1

System set to "Enhanced" mode when defining partition on HMC

Speed run on 1 core partition defined on HMC,

768 16M pages defined on systems with vmo command.

fdpr binary optimization tool used for

410.bwaves 434.zeusmp 453.povray 470.lbm 482.sphinx3

submit used to bind benchmark to a processor using "bindprocessor"

The "IBM System p 570" and "IBM System i 570" are electronically equivalent.

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007

## General Notes (Continued)

The results have been measured on the "IBM System p 570" model.

## Base Compiler Invocation

C benchmarks:

/usr/vac/bin/xlc

C++ benchmarks:

/usr/vacpp/bin/xlc

Fortran benchmarks:

/usr/bin/xlf95

Benchmarks using both Fortran and C:

/usr/vac/bin/xlc /usr/bin/xlf95

## Base Portability Flags

410.bwaves: -qfixed  
416.gamess: -qfixed  
434.zeusmp: -qfixed  
435.gromacs: -qfixed -qextname  
436.cactusADM: -qfixed -qextname  
437.leslie3d: -qfixed  
454.calculix: -qfixed -qextname  
481.wrf: -DSPEC\_CPU\_AIX -DNOUNDERSCORE  
482.sphinx3: -qchars=signed

## Base Optimization Flags

C benchmarks:

-O5 -qlargepage -D\_ILS\_MACROS -blpdata

C++ benchmarks:

-O5 -qlargepage -D\_ILS\_MACROS -qrtti=all -D\_\_IBM\_FAST\_VECTOR  
-blpdata

Fortran benchmarks:

-O5 -qlargepage -qsmallstack=dynlenonheap -blpdata

Benchmarks using both Fortran and C:

-O5 -qlargepage -D\_ILS\_MACROS -qsmallstack=dynlenonheap -blpdata



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007

## Base Other Flags

### C benchmarks:

-qlanglvl=extc99 -bmaxdata:0x40000000 -qipa=noobject -qipa=threads  
-qsuppress=1500-036

### C++ benchmarks:

-bmaxdata:0x50000000 -qipa=noobject -qipa=threads -qsuppress=1500-036

### Fortran benchmarks:

-bmaxdata:0x60000000 -qalias=nostd -qipa=noobject -qsuppress=1500-010  
-qsuppress=cmpmsg -qipa=threads -qsuppress=1500-036

### Benchmarks using both Fortran and C:

-qlanglvl=extc99 -bmaxdata:0x60000000 -qalias=nostd -qipa=noobject  
-qsuppress=1500-010 -qsuppress=cmpmsg -qipa=threads  
-qsuppress=1500-036

## Peak Compiler Invocation

### C benchmarks:

/usr/vac/bin/xlc

### C++ benchmarks:

/usr/vacpp/bin/xlC

### Fortran benchmarks:

/usr/bin/xlf95

### Benchmarks using both Fortran and C:

/usr/vac/bin/xlc /usr/bin/xlf95

## Peak Portability Flags

410.bwaves: -qfixed  
416.gamess: -qfixed  
434.zeusmp: -qfixed  
435.gromacs: -qfixed -qextname  
436.cactusADM: -qfixed -qextname  
437.leslie3d: -qfixed  
454.calculix: -qfixed -qextname  
481.wrf: -DSPEC\_CPU\_AIX -DNOUNDERSCORE  
482.sphinx3: -qchars=signed



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007

## Peak Optimization Flags

### C benchmarks:

433.milc: -O5 -qlargepage -D\_ILS\_MACROS -qalign=natural -blpdata

470.lbm: -O5 -qlargepage -D\_ILS\_MACROS -q64 -blpdata

482.sphinx3: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -D\_ILS\_MACROS -blpdata

### C++ benchmarks:

444.namd: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -D\_ILS\_MACROS -blpdata

447.deallI: -O5 -qlargepage -D\_ILS\_MACROS -qrtti=all  
-D\_\_IBM\_FAST\_VECTOR -blpdata

450.soplex: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage  
-D\_ILS\_MACROS -blpdata

453.povray: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -D\_ILS\_MACROS -qalign=natural -blpdata

### Fortran benchmarks:

410.bwaves: -O5 -qlargepage -qenablevmx -qvecnv1  
-qsmallstack=dynlenonheap -blpdata

416.gamess: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -blpdata

434.zeusmp: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -qxlf90=nosignedzero -blpdata

437.leslie3d: -O5 -qlargepage -q64 -blpdata

459.GemsFDTD: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -blpdata

465.tonto: Same as 416.gamess

### Benchmarks using both Fortran and C:

435.gromacs: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx  
-qvecnv1 -D\_ILS\_MACROS -blpdata

436.cactusADM: -D\_ILS\_MACROS -blpdata

454.calculix: -O4 -qlargepage -q64 -D\_ILS\_MACROS -blpdata

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 22.3

IBM System i 570 (4.7 GHz, 1 core)

SPECfp\_base2006 = 18.7

CPU2006 license: 11

Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007

## Peak Optimization Flags (Continued)

481.wrf: -O5 -qlargepage -D\_ILS\_MACROS -blpdata

## Peak Other Flags

C benchmarks (except as noted below):

-qlanglvl=extc99 -qipa=noobject -qipa=threads -qsuppress=1500-036

433.milc: -qlanglvl=extc99 -bmaxdata:0x40000000 -qipa=noobject  
-qipa=threads -qsuppress=1500-036

C++ benchmarks (except as noted below):

-qipa=noobject -qipa=threads -qsuppress=1500-036

447.dealII: -bmaxdata:0x50000000 -qipa=noobject -qipa=threads  
-qsuppress=1500-036

450.soplex: -bmaxdata:0x40000000 -qstrict -qipa=noobject -qipa=threads  
-qsuppress=1500-036

Fortran benchmarks (except as noted below):

-bmaxdata:0x50000000 -qipa=noobject -qsuppress=1500-010  
-qsuppress=cmpmsg -qipa=threads -qsuppress=1500-036

416.gamess: -bmaxdata:0x40000000 -qalias=nostd -qipa=noobject  
-qsuppress=1500-010 -qsuppress=cmpmsg -qipa=threads  
-qsuppress=1500-036

434.zeusmp: -bmaxdata:0x40000000 -qipa=noobject -qsuppress=1500-010  
-qsuppress=cmpmsg -qipa=threads -qsuppress=1500-036

437.leslie3d: -qipa=noobject -qsuppress=1500-010 -qsuppress=cmpmsg  
-qipa=threads -qsuppress=1500-036

465.tonto: -bmaxdata:0x20000000 -qipa=noobject -qsuppress=1500-010  
-qsuppress=cmpmsg -qipa=threads -qsuppress=1500-036

Benchmarks using both Fortran and C (except as noted below):

-qlanglvl=extc99 -qipa=noobject -qsuppress=1500-010 -qsuppress=cmpmsg  
-qipa=threads -qsuppress=1500-036

436.cactusADM: -qlanglvl=extc99 -bmaxdata:0x60000000 -qipa=noobject  
-qsuppress=1500-010 -qsuppress=cmpmsg -qipa=threads  
-qsuppress=1500-036

481.wrf: -qlanglvl=extc99 -bmaxdata:0x30000000 -qalias=nostd  
-qipa=noobject -qsuppress=1500-010 -qsuppress=cmpmsg  
-qipa=threads -qsuppress=1500-036



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation	SPECfp2006 =	22.3
IBM System i 570 (4.7 GHz, 1 core)	SPECfp_base2006 =	18.7

<b>CPU2006 license:</b> 11	<b>Test date:</b> May-2007
<b>Test sponsor:</b> IBM Corporation	<b>Hardware Availability:</b> Sep-2007
<b>Tested by:</b> IBM Corporation	<b>Software Availability:</b> Jun-2007

The flags file that was used to format this result can be browsed at  
[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.12.html](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.12.html)

You can also download the XML flags source by saving the following link:  
[http://www.spec.org/cpu2006/flags/CPU2006\\_flags.20090714.12.xml](http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.12.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
 Report generated on Tue Jul 22 12:58:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
 Originally published on 8 August 2007.