



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp[®]_rate2006 = 839

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = 730

CPU2006 license: 11

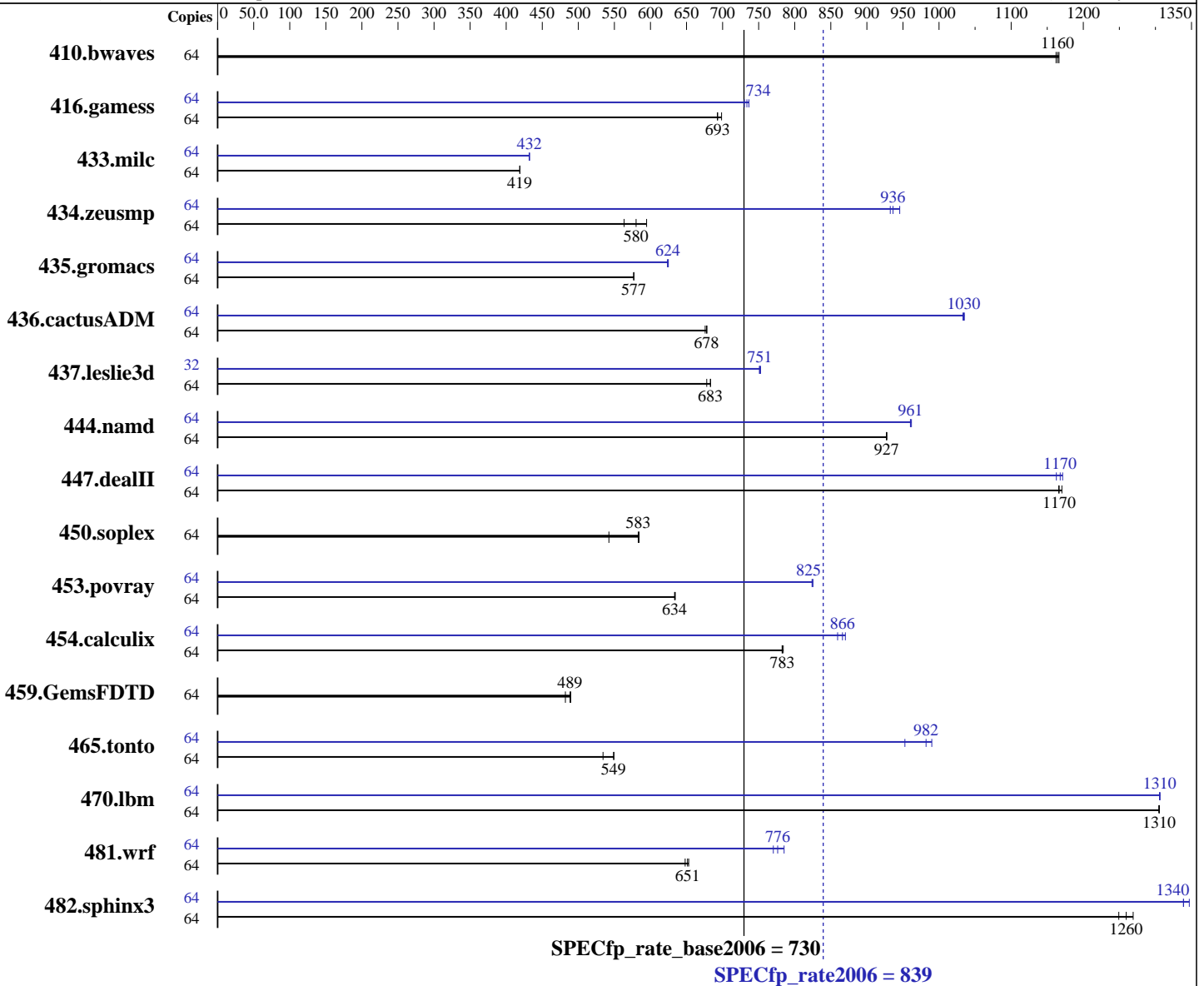
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Mar-2008

Hardware Availability: May-2008

Software Availability: May-2008



Hardware

CPU Name: POWER6
 CPU Characteristics:
 CPU MHz: 4700
 FPU: Integrated
 CPU(s) enabled: 32 cores, 16 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 32 cores
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per core

Continued on next page

Software

Operating System: IBM AIX V5.3
 with the 5300-08 Technology Level
 Compiler: XL C/C++ Enterprise Edition V9 for AIX
 Updated with the Oct2007 PTF.
 XL Fortran Enterprise Edition V11.1 for AIX
 Updated with the Oct2007 PTF.
 Auto Parallel: No
 File System: AIX/JFS2
 System State: Multi-user

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = **839**

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = **730**

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Mar-2008

Hardware Availability: May-2008

Software Availability: May-2008

L3 Cache: 32 MB I+D off chip per chip
Other Cache: None
Memory: 128 GB (64x2 GB) DDR2 533 MHz
Disk Subsystem: 2x146 GB SFF SAS 10K RPM
Other Hardware: None

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	64	747	1160	746	1170	748	1160	64	747	1160	746	1170	748	1160
416.gamess	64	1809	693	1794	699	1808	693	64	1702	736	1716	730	1708	734
433.milc	64	1403	419	1402	419	1403	419	64	1360	432	1359	432	1359	432
434.zeusmp	64	1034	563	1004	580	979	595	64	616	946	622	936	625	932
435.gromacs	64	792	577	792	577	792	577	64	732	624	733	624	731	625
436.cactusADM	64	1128	678	1132	676	1128	678	64	739	1030	739	1040	740	1030
437.leslie3d	64	881	683	881	683	887	678	32	400	753	400	751	401	751
444.namd	64	554	927	553	928	553	927	64	534	962	534	960	534	961
447.dealII	64	626	1170	628	1170	628	1170	64	630	1160	625	1170	627	1170
450.soplex	64	984	542	914	584	915	583	64	984	542	914	584	915	583
453.povray	64	537	634	537	634	537	634	64	413	825	413	824	413	825
454.calculix	64	675	783	673	784	675	783	64	614	859	607	870	610	866
459.GemsFDTD	64	1390	489	1387	490	1409	482	64	1390	489	1387	490	1409	482
465.tonto	64	1179	534	1148	549	1146	549	64	661	953	636	990	641	982
470.lbm	64	674	1300	674	1310	674	1310	64	674	1310	673	1310	673	1310
481.wrf	64	1098	651	1095	653	1103	648	64	910	785	928	770	921	776
482.sphinx3	64	990	1260	983	1270	999	1250	64	926	1350	932	1340	932	1340

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

General Notes

See flags file of details on following settings.

all ulimits set to unlimited.

Environment variables set before executing benchmarks:

MALLOCOPTIONS=pool

MEMORY_AFFINITY=MCM

XLFRTEOPTS=intrinths=1

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

System set to "Chip affinity" mode using the HMC command

chsyscfg ... -i "addr_broadcast_perf_policy=chip_affinity"

bindprocessor command used on submit to bind each copy to a

unique processor.

6400 16M large pages defined with vmo command

Remote console disabled in /etc/inittab.

fdpr binary optimization tool used for:

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 2



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 839

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = 730

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: May-2008

Tested by: IBM Corporation

Software Availability: May-2008

General Notes (Continued)

410.bwaves 433.milc 435.gromacs 436.cactusADM
453.povray 470.lbm 482.sphinx3

Base Compiler Invocation

C benchmarks:

/usr/vac/bin/xlc -qlanglvl=extc99

C++ benchmarks:

/usr/vacpp/bin/xlC

Fortran benchmarks:

/usr/bin/xlf95

Benchmarks using both Fortran and C:

/usr/vac/bin/xlc -qlanglvl=extc99 /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:

-bmaxdata:0x40000000 -O5 -qlargepage -D_ILS_MACROS -blpdata

C++ benchmarks:

-bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS -grtti=all
-D__IBM_FAST_VECTOR -blpdata

Fortran benchmarks:

-bmaxdata:0x60000000 -O5 -qlargepage -qsmallstack=dynlenonheap
-qalias=nostd -blpdata

Benchmarks using both Fortran and C:

-bmaxdata:0x60000000 -O5 -qlargepage -D_ILS_MACROS
-qsmallstack=dynlenonheap -qalias=nostd -blpdata



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 839

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = 730

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: May-2008

Tested by: IBM Corporation

Software Availability: May-2008

Base Other Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

Peak Compiler Invocation

C benchmarks:

/usr/vac/bin/xlc -qlanglvl=extc99

C++ benchmarks:

/usr/vacpp/bin/xlC

Fortran benchmarks:

/usr/bin/xlf95

Benchmarks using both Fortran and C:

/usr/vac/bin/xlc -qlanglvl=extc99 /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

Peak Optimization Flags

C benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 839

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = 730

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: May-2008

Tested by: IBM Corporation

Software Availability: May-2008

Peak Optimization Flags (Continued)

433.milc: -bmaxdata:0x40000000 -O5 -qlargepage -D_ILS_MACROS
-qalign=natural -qfdpr -blpdata

470.lbm: -O5 -qlargepage -D_ILS_MACROS -qfdpr -q64 -blpdata

482.sphinx3: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx
-qvecnv1 -D_ILS_MACROS -qfdpr -blpdata

C++ benchmarks:

444.namd: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -D_ILS_MACROS

447.dealIII: -bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS
-qrtti=all -D__IBM_FAST_VECTOR -blpdata

450.soplex: basepeak = yes

453.povray: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnv1 -D_ILS_MACROS -qalign=natural -qfdpr -blpdata

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -bmaxdata:0x40000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qalias=nostd

434.zeusmp: -bmaxdata:0x40000000 -qpdf1(pass 1) -qpdf2(pass 2) -O3
-qarch=auto -qtune=auto -qlargepage -qenablevmx -qvecnv1
-qxlf90=nosignedzero -blpdata

437.leslie3d: -O4 -qlargepage -q64 -blpdata

459.GemsFDTD: basepeak = yes

465.tonto: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -blpdata

Benchmarks using both Fortran and C:

435.gromacs: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnv1 -qfdpr -D_ILS_MACROS -blpdata

436.cactusADM: -bmaxdata:0x60000000 -qpdf1(pass 1) -qpdf2(pass 2) -O2
-qarch=auto -qtune=auto -qlargepage -qenablevmx -qvecnv1
-qfdpr -qmoststrict -D_ILS_MACROS -blpdata

454.calculix: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage
-D_ILS_MACROS -blpdata

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 839

IBM Power 575 (4.7 GHz, 32 core)

SPECfp_rate_base2006 = 730

CPU2006 license: 11

Test date: Mar-2008

Test sponsor: IBM Corporation

Hardware Availability: May-2008

Tested by: IBM Corporation

Software Availability: May-2008

Peak Optimization Flags (Continued)

481.wrf: -bmaxdata:0x30000000 -05 -qlargepage -D_ILS_MACROS
-blpdata

Peak Other Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

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

<http://www.spec.org/cpu2006/flags/IBM-AIX-XL.20090714.html>

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

<http://www.spec.org/cpu2006/flags/IBM-AIX-XL.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 Jul 22 16:46:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 29 April 2008.