



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp<sup>®</sup>2006 = **106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

SPECfp\_base2006 = **102**

CPU2006 license: 19

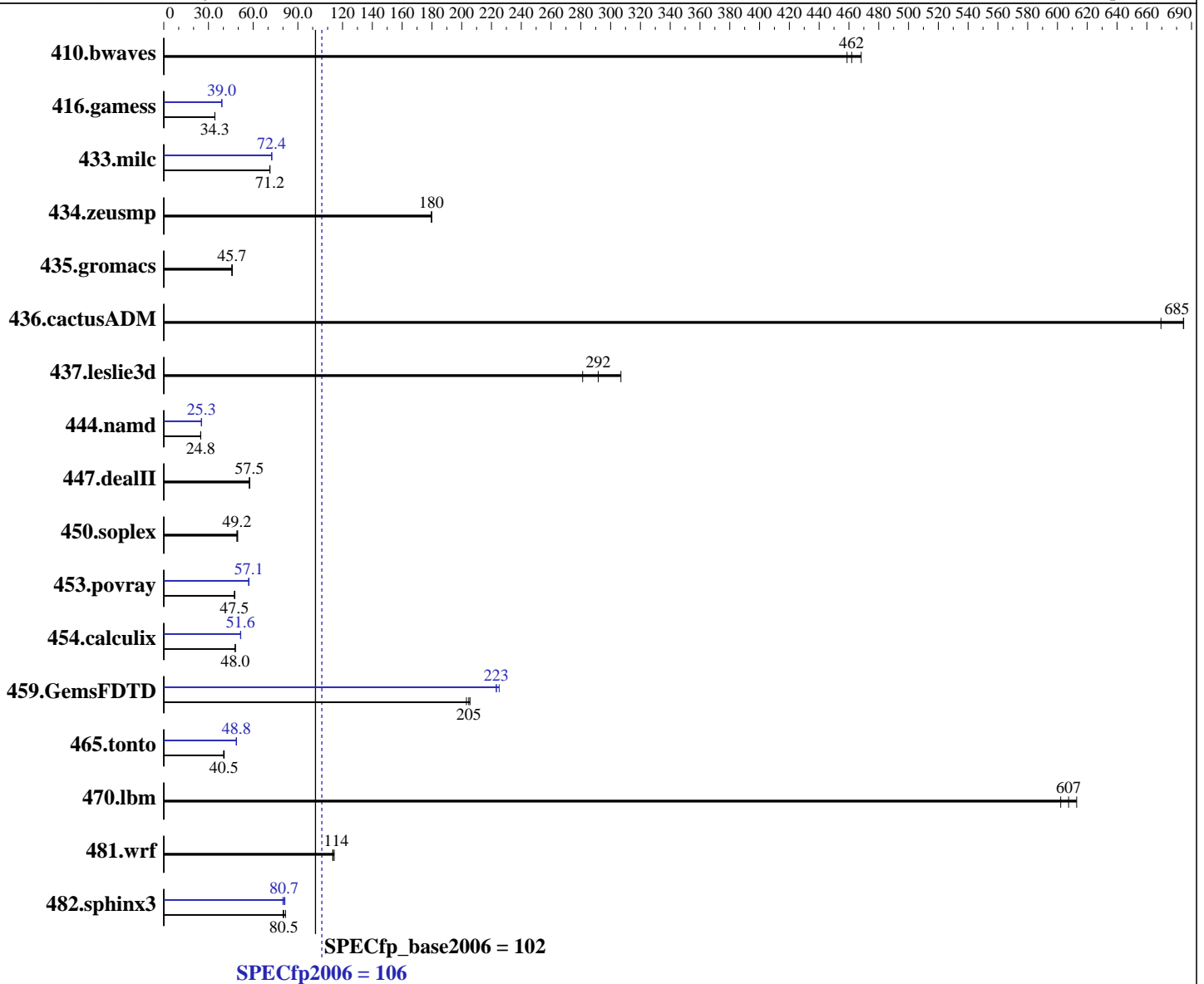
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2690 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 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: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 2.6.32-358.11.1.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;  
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp2006 = **106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

SPECfp\_base2006 = **102**

CPU2006 license: 19

Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013

L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b><u>29.4</u></b>	<b><u>462</u></b>	29.6	459	29.0	468	<b><u>29.4</u></b>	<b><u>462</u></b>	29.6	459	29.0	468
416.gamess	571	34.3	571	34.3	<b><u>571</u></b>	<b><u>34.3</u></b>	503	39.0	<b><u>503</u></b>	<b><u>39.0</u></b>	503	38.9
433.milc	129	71.2	<b><u>129</u></b>	<b><u>71.2</u></b>	129	71.3	<b><u>127</u></b>	<b><u>72.4</u></b>	127	72.4	127	72.5
434.zeusmp	<b><u>50.6</u></b>	<b><u>180</u></b>	50.6	180	50.6	180	<b><u>50.6</u></b>	<b><u>180</u></b>	50.6	180	50.6	180
435.gromacs	156	45.7	<b><u>156</u></b>	<b><u>45.7</u></b>	155	46.0	156	45.7	<b><u>156</u></b>	<b><u>45.7</u></b>	155	46.0
436.cactusADM	17.8	669	<b><u>17.5</u></b>	<b><u>685</u></b>	17.5	685	17.8	669	<b><u>17.5</u></b>	<b><u>685</u></b>	17.5	685
437.leslie3d	33.4	281	<b><u>32.2</u></b>	<b><u>292</u></b>	30.6	307	33.4	281	<b><u>32.2</u></b>	<b><u>292</u></b>	30.6	307
444.namd	324	24.8	323	24.8	<b><u>323</u></b>	<b><u>24.8</u></b>	317	25.3	317	25.3	<b><u>317</u></b>	<b><u>25.3</u></b>
447.dealII	199	57.6	199	57.5	<b><u>199</u></b>	<b><u>57.5</u></b>	199	57.6	199	57.5	<b><u>199</u></b>	<b><u>57.5</u></b>
450.soplex	<b><u>170</u></b>	<b><u>49.2</u></b>	170	49.2	168	49.6	<b><u>170</u></b>	<b><u>49.2</u></b>	170	49.2	168	49.6
453.povray	<b><u>112</u></b>	<b><u>47.5</u></b>	112	47.6	112	47.5	93.1	57.2	<b><u>93.2</u></b>	<b><u>57.1</u></b>	93.4	57.0
454.calculix	172	48.0	172	47.9	<b><u>172</u></b>	<b><u>48.0</u></b>	160	51.5	160	51.7	<b><u>160</u></b>	<b><u>51.6</u></b>
459.GemsFDTD	<b><u>51.8</u></b>	<b><u>205</u></b>	51.6	206	52.2	203	<b><u>47.5</u></b>	<b><u>223</u></b>	47.1	225	47.5	223
465.tonto	<b><u>243</u></b>	<b><u>40.5</u></b>	243	40.6	245	40.1	202	48.8	<b><u>202</u></b>	<b><u>48.8</u></b>	202	48.6
470.lbm	22.8	602	<b><u>22.6</u></b>	<b><u>607</u></b>	22.4	613	22.8	602	<b><u>22.6</u></b>	<b><u>607</u></b>	22.4	613
481.wrf	98.4	114	97.6	114	<b><u>98.4</u></b>	<b><u>114</u></b>	98.4	114	97.6	114	<b><u>98.4</u></b>	<b><u>114</u></b>
482.sphinx3	243	80.1	238	81.7	<b><u>242</u></b>	<b><u>80.5</u></b>	<b><u>241</u></b>	<b><u>80.7</u></b>	240	81.3	244	79.9

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

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration:  
 Energy Performance = Performance  
 Utilization Profile = Unbalanced

## General Notes

Environment variables set by runspec before the start of the run:  
 KMP\_AFFINITY = "granularity=fine,compact,1,0"  
 LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

**SPECfp\_base2006 = 102**

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

**Test date:** Oct-2013  
**Hardware Availability:** Oct-2013  
**Software Availability:** Sep-2013

## General Notes (Continued)

OMP\_NUM\_THREADS = "20"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

For information about Fujitsu please visit: <http://www.fujitsu.com>

## 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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

**SPECfp\_base2006 = 102**

**CPU2006 license:** 19

**Test date:** Oct-2013

**Test sponsor:** Fujitsu

**Hardware Availability:** Oct-2013

**Tested by:** Fujitsu

**Software Availability:** Sep-2013

## Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`

## Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32  
-ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

**SPECfp\_base2006 = 102**

**CPU2006 license:** 19

**Test date:** Oct-2013

**Test sponsor:** Fujitsu

**Hardware Availability:** Oct-2013

**Tested by:** Fujitsu

**Software Availability:** Sep-2013

## Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -inline-alloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml>



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

**SPECfp2006 = 106**

PRIMERGY BX924 S4, Intel Xeon E5-2690 v2, 3.00 GHz

**SPECfp\_base2006 = 102**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Oct-2013

**Hardware Availability:** Oct-2013

**Software Availability:** Sep-2013

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 v1.2.  
Report generated on Thu Jul 24 17:30:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 November 2013.