



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp<sup>®</sup>2006 = **105**

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

SPECfp\_base2006 = **101**

CPU2006 license: 19

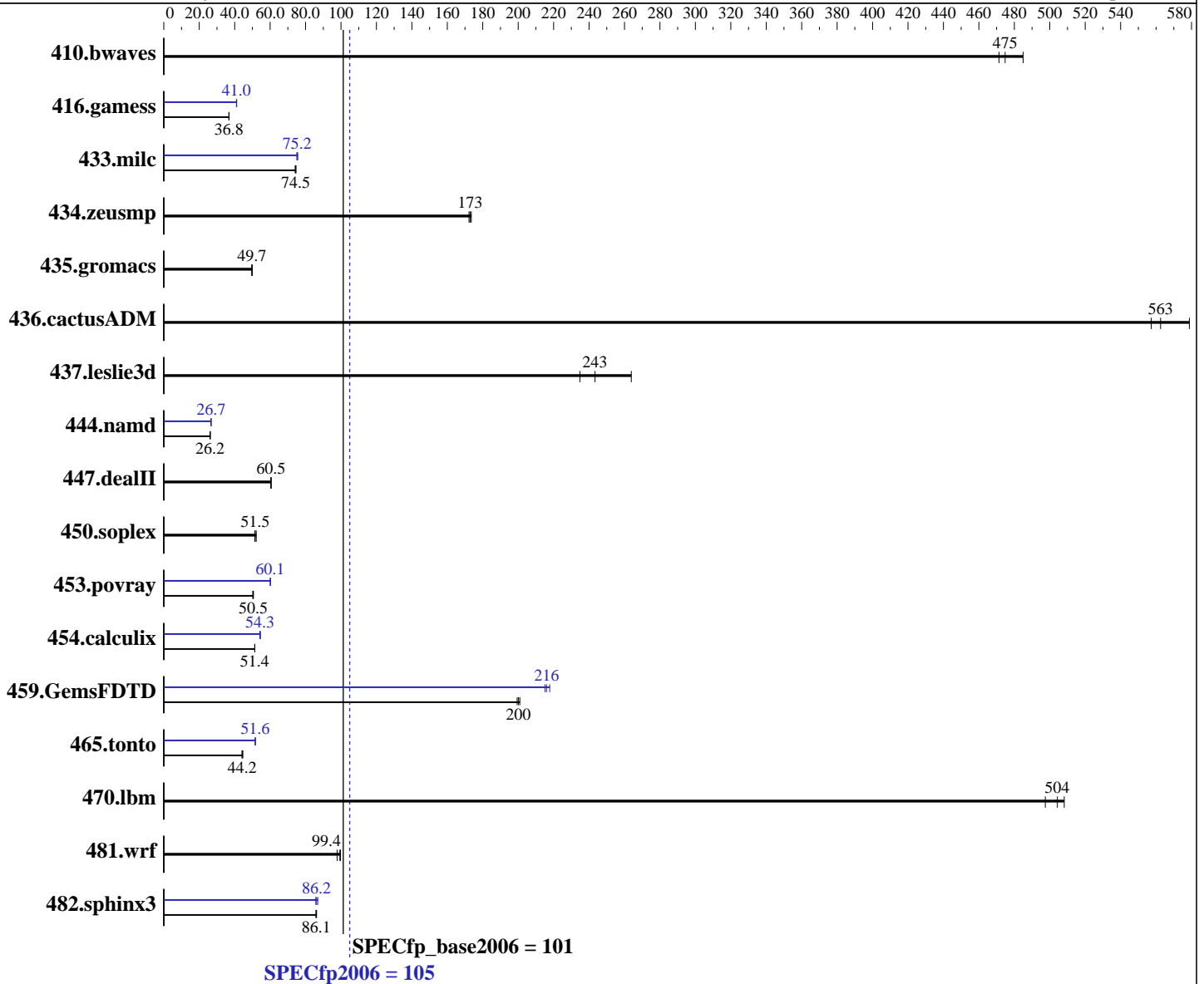
Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2643 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 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 = **105**

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

SPECfp\_base2006 = **101**

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	28.8	471	28.0	485	<b><u>28.6</u></b>	<b><u>475</u></b>	28.8	471	28.0	485	<b><u>28.6</u></b>	<b><u>475</u></b>
416.gamess	<b><u>532</u></b>	<b><u>36.8</u></b>	532	36.8	532	36.8	476	41.2	477	41.0	<b><u>477</u></b>	<b><u>41.0</u></b>
433.milc	123	74.5	<b><u>123</u></b>	<b><u>74.5</u></b>	124	74.1	121	75.6	<b><u>122</u></b>	<b><u>75.2</u></b>	122	75.2
434.zeusmp	<b><u>52.6</u></b>	<b><u>173</u></b>	52.4	174	52.8	172	<b><u>52.6</u></b>	<b><u>173</u></b>	52.4	174	52.8	172
435.gromacs	144	49.7	143	49.9	<b><u>144</u></b>	<b><u>49.7</u></b>	144	49.7	143	49.9	<b><u>144</u></b>	<b><u>49.7</u></b>
436.cactusADM	20.6	579	21.4	557	<b><u>21.2</u></b>	<b><u>563</u></b>	20.6	579	21.4	557	<b><u>21.2</u></b>	<b><u>563</u></b>
437.leslie3d	35.6	264	40.0	235	<b><u>38.6</u></b>	<b><u>243</u></b>	35.6	264	40.0	235	<b><u>38.6</u></b>	<b><u>243</u></b>
444.namd	307	26.1	<b><u>306</u></b>	<b><u>26.2</u></b>	306	26.2	<b><u>301</u></b>	<b><u>26.7</u></b>	301	26.7	301	26.7
447.dealII	189	60.4	<b><u>189</u></b>	<b><u>60.5</u></b>	189	60.6	189	60.4	<b><u>189</u></b>	<b><u>60.5</u></b>	189	60.6
450.soplex	160	52.2	<b><u>162</u></b>	<b><u>51.5</u></b>	162	51.4	160	52.2	<b><u>162</u></b>	<b><u>51.5</u></b>	162	51.4
453.povray	105	50.6	106	50.2	<b><u>105</u></b>	<b><u>50.5</u></b>	<b><u>88.5</u></b>	<b><u>60.1</u></b>	88.3	60.2	88.5	60.1
454.calculix	161	51.3	<b><u>161</u></b>	<b><u>51.4</u></b>	161	51.4	152	54.2	151	54.6	<b><u>152</u></b>	<b><u>54.3</u></b>
459.GemsFDTD	52.8	201	53.2	199	<b><u>53.0</u></b>	<b><u>200</u></b>	<b><u>49.1</u></b>	<b><u>216</u></b>	49.3	215	48.7	218
465.tonto	221	44.6	223	44.2	<b><u>223</u></b>	<b><u>44.2</u></b>	191	51.6	190	51.8	<b><u>191</u></b>	<b><u>51.6</u></b>
470.lbm	27.6	497	<b><u>27.2</u></b>	<b><u>504</u></b>	27.0	508	27.6	497	<b><u>27.2</u></b>	<b><u>504</u></b>	27.0	508
481.wrf	<b><u>112</u></b>	<b><u>99.4</u></b>	114	97.8	112	99.7	<b><u>112</u></b>	<b><u>99.4</u></b>	114	97.8	112	99.7
482.sphinx3	<b><u>226</u></b>	<b><u>86.1</u></b>	226	86.2	227	85.8	<b><u>226</u></b>	<b><u>86.2</u></b>	224	86.9	227	85.8

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 = 105

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

SPECfp\_base2006 = 101

CPU2006 license: 19

Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013

## General Notes (Continued)

OMP\_NUM\_THREADS = "12"

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 = 105**

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

**SPECfp\_base2006 = 101**

**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 = 105**

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

**SPECfp\_base2006 = 101**

**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.dealIII: 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-calloc  
-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>

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>

Page 5



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

**SPECfp2006 = 105**

PRIMERGY BX924 S4, Intel Xeon E5-2643 v2, 3.50 GHz

**SPECfp\_base2006 = 101**

**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 17:45:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 November 2013.