



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp<sup>®</sup>2006 = 27.6

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

SPECfp\_base2006 = 25.8

CPU2006 license: 19

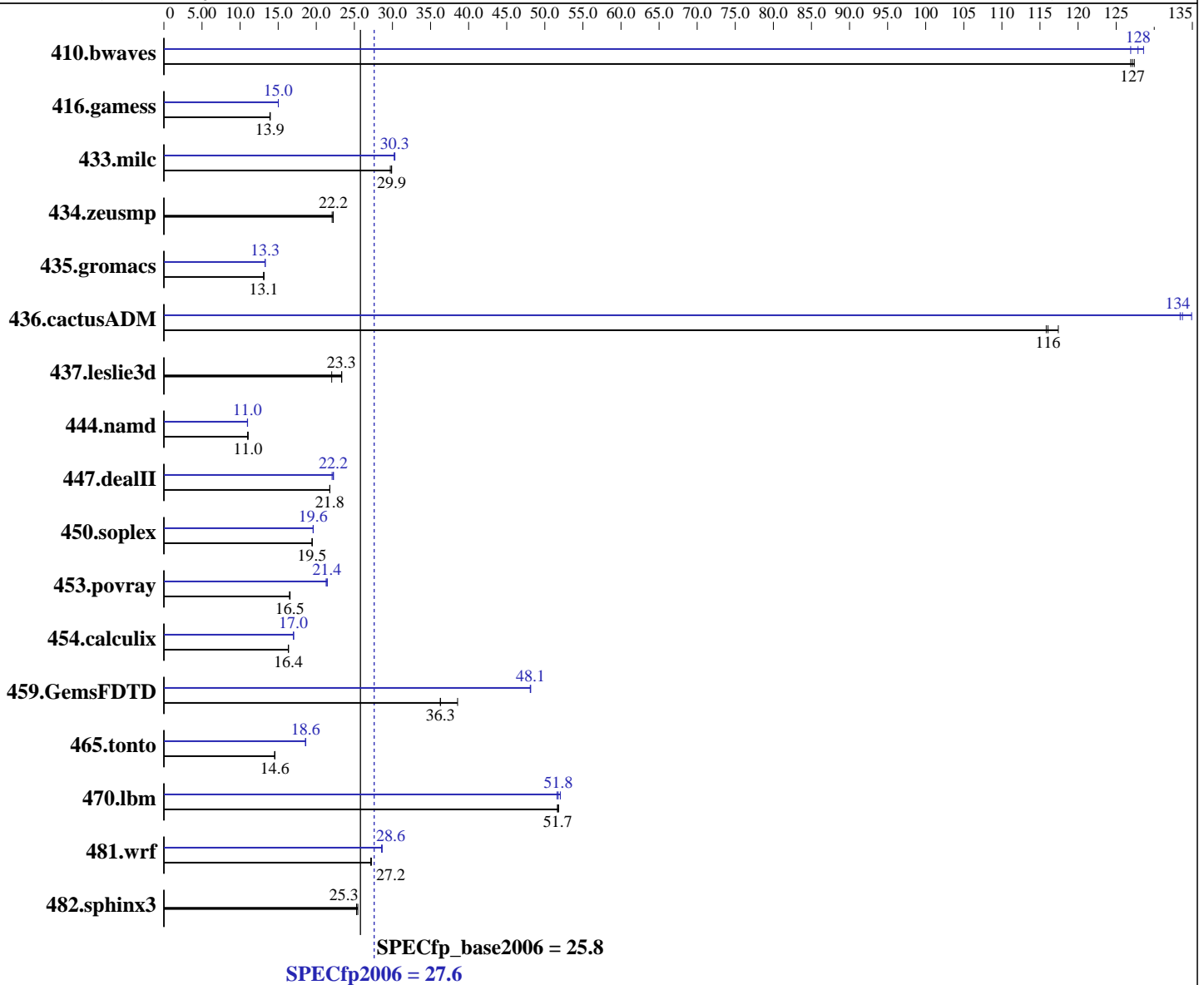
Test date: Jul-2010

Test sponsor: Fujitsu

Hardware Availability: Aug-2010

Tested by: Fujitsu

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon L5609  
 CPU Characteristics:  
 CPU MHz: 1867  
 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: 256 KB I+D on chip per core

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp2006 = **27.6**

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

SPECfp\_base2006 = **25.8**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010

L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (6x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)  
Disk Subsystem: 1 x SSD, 64 GB  
Other Hardware: None

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>107</b>	<b>127</b>	107	127	107	127	106	129	107	127	<b>106</b>	<b>128</b>
416.gamess	<b>1407</b>	<b>13.9</b>	1402	14.0	1407	13.9	1304	15.0	1303	15.0	<b>1304</b>	<b>15.0</b>
433.milc	<b>307</b>	<b>29.9</b>	309	29.7	307	29.9	304	30.2	<b>303</b>	<b>30.3</b>	303	30.3
434.zeusmp	<b>409</b>	<b>22.2</b>	412	22.1	409	22.2	<b>409</b>	<b>22.2</b>	412	22.1	409	22.2
435.gromacs	546	13.1	<b>544</b>	<b>13.1</b>	544	13.1	538	13.3	536	13.3	<b>537</b>	<b>13.3</b>
436.cactusADM	103	116	<b>103</b>	<b>116</b>	102	117	<b>89.4</b>	<b>134</b>	88.6	135	89.6	133
437.leslie3d	427	22.0	403	23.4	<b>403</b>	<b>23.3</b>	427	22.0	403	23.4	<b>403</b>	<b>23.3</b>
444.namd	731	11.0	<b>726</b>	<b>11.0</b>	726	11.0	732	11.0	730	11.0	<b>731</b>	<b>11.0</b>
447.dealII	<b>525</b>	<b>21.8</b>	525	21.8	525	21.8	514	22.3	<b>515</b>	<b>22.2</b>	518	22.1
450.soplex	429	19.5	428	19.5	<b>429</b>	<b>19.5</b>	426	19.6	425	19.6	<b>426</b>	<b>19.6</b>
453.povray	<b>322</b>	<b>16.5</b>	321	16.6	323	16.5	<b>249</b>	<b>21.4</b>	248	21.5	250	21.3
454.calculix	<b>505</b>	<b>16.4</b>	505	16.4	505	16.3	<b>485</b>	<b>17.0</b>	485	17.0	485	17.0
459.GemsFDTD	275	38.6	<b>292</b>	<b>36.3</b>	292	36.3	<b>220</b>	<b>48.1</b>	221	48.1	220	48.1
465.tonto	<b>676</b>	<b>14.6</b>	675	14.6	677	14.5	<b>529</b>	<b>18.6</b>	530	18.6	528	18.6
470.lbm	<b>266</b>	<b>51.7</b>	265	51.8	266	51.7	<b>265</b>	<b>51.8</b>	266	51.6	264	52.0
481.wrf	<b>411</b>	<b>27.2</b>	411	27.2	410	27.2	391	28.6	390	28.6	<b>390</b>	<b>28.6</b>
482.sphinx3	766	25.5	<b>770</b>	<b>25.3</b>	770	25.3	766	25.5	<b>770</b>	<b>25.3</b>	770	25.3

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

## Platform Notes

The system automatically configures the memory to run at 1067 MHz.  
BIOS configuration:  
Data Reuse Optimization = Disable

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 27.6

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

SPECfp\_base2006 = 25.8

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

Test date: Jul-2010  
Hardware Availability: Aug-2010  
Software Availability: Jan-2010

## General Notes (Continued)

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## 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

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 27.6

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

SPECfp\_base2006 = 25.8

CPU2006 license: 19

Test date: Jul-2010

Test sponsor: Fujitsu

Hardware Availability: Aug-2010

Tested by: Fujitsu

Software Availability: Jan-2010

## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

## 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: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-ansi-alias`

470.lbm: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 27.6**

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

**SPECfp\_base2006 = 25.8**

CPU2006 license: 19

Test date: Jul-2010

Test sponsor: Fujitsu

Hardware Availability: Aug-2010

Tested by: Fujitsu

Software Availability: Jan-2010

## Peak Optimization Flags (Continued)

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep- -auto-ilp32

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -auto-ilp32

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-inline-calloc -opt-malloc-options=3 -auto -unroll4

### Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 27.6

PRIMERGY BX920 S2, Intel Xeon L5609, 1.87 GHz

SPECfp\_base2006 = 25.8

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.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 v1.1.  
Report generated on Wed Jul 23 10:07:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 14 September 2010.